



April 30, 2019

CERTIFIED: 7016 2710 0001 0589 3198

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 – 1st Quarter 2019
Valero Refining - Meraux LLC, Agency Interest # 1238
2235 Jacob Drive, St. Bernard Parish, Meraux, LA
Title V Permit Numbers: 2500-00001-V17

Gentlemen,

Valero Refining, Meraux LLC is submitting 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 First Quarter 2019.

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. The NHT Charge Heater (EPN 14-72, EQT 0023) was permanently shut down on 1/15/19 and replaced with a new NHT Charge Heater (EPN 1-17, EQT 0159) with initial startup on 1/29/19. New NO_x and O₂ CEMS were installed on this new heater and also on the MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033) with initial startup on 2/5/19. Additionally, the DHT Charge Heater (EPN 5-73, EQT 0058) is now correctly listed as being supplied fuel gas from the Area 1 Fuel Drum.

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. This will be reported as a deviation in the next Semi-Annual Title V Deviation Report. 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 and General Manager
Meraux Refinery

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/26/19

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

Total source operating time in reporting period: 1,571 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	30
e. Unknown causes	0
2. Total CMS Downtime	31
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	2.0 %

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: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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.: ABB AO2000 Uras 26(SO₂)/ Magnos 206 (O₂)

Date of Latest CMS Certification or Audit: CGA on 1/8/19

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

Total source operating time in reporting period: 2,159 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/12/19

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); DHT Charge Heater (EPN 5-73, EQT 0058)

Total source operating time in reporting period: EQT 0010-2,159 hours, EQT 0011-1,571 hours, EQT 0033-1,231 hours, EQT 0058-2,159 hours

Emissions Data Summary¹				
1. Duration of excess emissions in reporting period due to:	<i>EQT 0010</i> (hours)	<i>EQT 0011</i> (hours)	<i>EQT 0033</i> (hours)	<i>EQT 0058</i> (hours)
a. Startup/shutdown	0	0	0	0
b. Control equipment problems	0	0	0	0
c. Process problems	0	0	0	0
d. Other known causes	0	0	0	0
e. Unknown causes	0	0	0	0
2. Total duration of excess emission	0	0	0	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %	0.0 %	0.0 %	0.0 %

CMS Performance Summary¹				
1. CMS downtime in reporting period due to:	<i>EQT 0010</i> (hours)	<i>EQT 0011</i> (hours)	<i>EQT 0033</i> (hours)	<i>EQT 0058</i> (hours)
a. Monitor equipment malfunctions	0	0	0	0
b. Non-Monitor equipment malfunctions	0	0	0	0
c. Quality assurance calibration	1	0	1	1
d. Other known causes	0	0	0	0
e. Unknown causes	0	0	0	0
2. Total CMS Downtime	1	0	1	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %	0.0 %	0.1%	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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

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 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); ROSE Heater (EPN 1-80, EQT 0014)

Total source operating time in reporting period: EQT 0013-2,159 hours; EQT 0022-2,159 hours; EQT 0024-1,786 hours; EQT 0027-1,785 hours; EQT 0028-1,766 hours; EQT 0029-1,780 hours; EQT 0014-2,159 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>All EQT's (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>EQT's 0013, 0022, 0014 (hours)</i>	<i>EQT's 0024, 0027, 0028, 0029 (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	38	11
e. Unknown causes	0	0
2. Total CMS Downtime	39	12
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.8 %	0.7 %

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

Process Unit(s) Description: Area 2 Fuel Drum for NHT Charge Heater (EPN 14-72, EQT 0023)

Total source operating time in reporting period: 348 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

Process Unit(s) Description: Area 2 Fuel Drum for: Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127); NHT Charge Heater (EPN 1-17, EQT 0159)

Total source operating time in reporting period: EQT 0127-1,757 hours; EQT 0159-1,466 hours

Emissions Data Summary¹	
1. Duration of excess emissions in reporting period due to:	<i>All EQT's (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>EQT 0127 (hours)</i>	<i>EQT 0159 (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	11	11
e. Unknown causes	0	0
2. Total CMS Downtime	12	12
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.7 %	0.8 %

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

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

Total source operating time in reporting period: 1,797 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/11/19

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: 2,159 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/22/19

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 0030-2,157 hours; EQT 0048-0 hours³

Emissions Data Summary¹		
	<i>EQT 0030 (hours)</i>	<i>EQT 0048 (hours)</i>
1. Duration of excess emissions in reporting period due to:		
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		
	<i>EQT 0030 (hours)</i>	<i>EQT 0048 (hours)</i>
1. CMS downtime in reporting period due to:		
a. Monitor equipment malfunctions	0	0
b. Non-Monitor equipment malfunctions	0	0
c. Quality assurance calibration	30	0
d. Other known causes	0	0
e. Unknown causes	0	0
2. Total CMS Downtime	30	0
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.4 %	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.

³ Boiler B-6 ran on purchased natural gas for the entire Quarter.

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/4/19

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

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))

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/8/19

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

Total source operating time in reporting period: 2,159 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: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/21/19

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

Total source operating time in reporting period: 2,159 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: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/6/19

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

Total source operating time in reporting period: 1,757 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: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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.: ABB Limas11(NOx), Magnos27 (O₂)

Date of Latest CMS Certification or Audit: Initial Certification Scheduled for Week of 4/29/19

Process Unit(s) Description: NHT Charge Heater (EPN 1-17, EQT 0159)

Total source operating time in reporting period: 1,466 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	1
e. Unknown causes	0
2. Total CMS Downtime	1
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: **NO_x**

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

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/26/19

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

Total source operating time in reporting period: 2,159 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	17
e. Unknown causes	0
2. Total CMS Downtime	20
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.9 %

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: Initial Certification Scheduled for Week of 4/29/19

Process Unit(s) Description: MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033)

Total source operating time in reporting period: 1,306 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	2
e. Unknown causes	0
2. Total CMS Downtime	3
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: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

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

Total source operating time in reporting period: 2,159 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: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

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

Total source operating time in reporting period: 2,159 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: **H₂S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/28/19

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

Total source operating time in reporting period: 2,159 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: **Total Sulfur**

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

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/3/19

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

Total source operating time in reporting period: 2,159 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	9
d. Other known causes	70
e. Unknown causes	0
2. Total CMS Downtime	79
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	3.7 %

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/3/19

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

Total source operating time in reporting period: 2,159 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	11
d. Other known causes	46
e. Unknown causes	0
2. Total CMS Downtime	57
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	2.6 %

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/3/19

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

Total source operating time in reporting period: 2,159 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	7
d. Other known causes	21
e. Unknown causes	0
2. Total CMS Downtime	28
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.3 %

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 2,159 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 2,159 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 2,159 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))

For all CMS covered in this report, the following changes were made in the 1st Quarter 2019 to CMS, process, or controls: The NHT Charge Heater (EPN 14-72, EQT 0023) was permanently shut down on 1/15/19 and replaced with a new NHT Charge Heater (EPN 1-17, EQT 0159) with initial startup on 1/29/19. New NOx and O2 CEMS were installed on this new heater and on the MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033) with initial startup on 2/5/19. Additionally, the DHT Charge Heater (EPN 5-73, EQT 0058) is now correctly listed as being supplied fuel gas from the Area 1 Fuel Drum.

I certify that the information contained in this report is true, accurate, and complete.

Name

Signature

Title

**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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/26/19

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

Total source operating time in reporting period: 1,571 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	
2/11/19	13:00		11	Offline due to a plugged sample line.	Sample line blown out, analyzer calibrated and returned to service.	
2/12/19		00:00				
2/13/19	16:00		19	Sample pump circuit breaker tripped due to circuit breaker failure.	Circuit breaker replaced, analyzer calibrated and returned to service.	
2/14/19		11:00				
3/26/19	15:00	16:00	1	SO ₂ and O ₂ Cylinder Gas Audit.	N/A	
TOTAL			31			

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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.: ABB AO2000 Uras 26(SO₂)/ Magnos 206 (O₂)

Date of Latest CMS Certification or Audit: CGA on 1/8/19

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

Total source operating time in reporting period: 2,159 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	
1/8/19	13:00	14:00	1	SO ₂ and O ₂ Cylinder Gas Audit.	N/A	
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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

Process Unit(s) Description: Area 2 Fuel Drum for: Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127); NHT Charge Heater (EPN 1-17, EQT 0159)

Total source operating time in reporting period: EQT 0127-1,757 hours; EQT 0159-1,466 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	
3/13/19	08:00	09:00	1	Cylinder Gas Audit.	N/A	
3/20/19	08:00	19:00	11	Analyzer shutdown and powered off for planned electrical distribution system maintenance.	Valero completed the maintenance and returned the analyzer to service.	
TOTAL			12			

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/6/19

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

Total source operating time in reporting period: 1,757 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	
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: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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.: ABB Limas11(NOx), Magnos27 (O₂)

Date of Latest CMS Certification or Audit: Initial Certification Scheduled for Week of 4/29/19

Process Unit(s) Description: NHT Charge Heater (EPN 1-17, EQT 0159)

Total source operating time in reporting period: 1,466 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	
3/20/19	13:00	14:00	1	Analyzer 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

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

Total source operating time in reporting period: 2,159 hours

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

Ja CMS PERFORMANCE²					
Date	Start	End	Duration (hours)	Cause	Corrective Action
3/13/19	13:00	14:00	1	Cylinder Gas Audit.	N/A
TOTAL			1		

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/13/19

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

Total source operating time in reporting period: 2,159 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	
3/13/19	10:00	11:00	1	Cylinder Gas Audit.	N/A	
TOTAL			1			

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 3/28/19

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

Total source operating time in reporting period: 2,159 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	
3/28/19	8:00	9:00	1	Cylinder Gas Audit.	N/A	
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: **Total Sulfur**

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

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/3/19

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

Total source operating time in reporting period: 2,159 hours

Ja CMS PERFORMANCE ¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
1/3/19	10:00	11:00	1	Cylinder Gas Audit	N/A
1/11/19	10:00	11:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
1/21/19	06:00	11:00	5	Sample pump failed during calibration check.	Sample pump rebuilt, calibrated and returned to service.
2/20/19	08:00	09:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
2/22/19	08:00	09:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
2/22/19	11:00	12:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
2/27/19	09:00	11:00	2	Analyzer offline for scheduled preventative maintenance.	Calibrated and returned to service.
2/27/19	15:00	16:00	1		
3/6/19	13:00	14:00	1	Cylinder Gas Audit	N/A
3/14/19	07:00		33	Main power fuse blew while analyzer was offline for adjustment.	Rush ordered fuses to be delivered next day. Replaced fuse, calibrated and returned to service.
3/15/19		16:00		Replacement fuses also blew until no more fuses were available onsite.	
3/16/19	12:00	13:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
3/19/19	10:00	12:00	2	Offline to troubleshoot recent issues with factory technician.	Calibrated and returned to service.
3/19/19	13:00	15:00	2		
3/20/19	10:00	11:00	1	Offline for more troubleshooting.	Calibrated and returned to service.
3/20/19	14:00	19:00	5	Offline to replace sample pump.	Calibrated and returned to service.
3/23/19	19:00		19	Due to a damaged connection the second instrument/combustion air bottle rack did not pick up after the first was exhausted.	Bottle racks replaced. Calibrated and returned to service.
3/24/19		14:00			
3/25/19	08:00	10:00	2	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			79		

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/3/19

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

Total source operating time in reporting period: 2,159 hours

Ja CMS PERFORMANCE¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
1/3/19	10:00	11:00	1	Cylinder Gas Audit	N/A
1/11/19	10:00	11:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
1/21/19	10:00	11:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
2/20/19	08:00	09:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
2/26/19	09:00	14:00	5	Analyzer offline for scheduled preventative maintenance.	Calibrated and returned to service.
3/6/19	13:00	14:00	1	Cylinder Gas Audit	N/A
3/23/19	19:00		41	Due to a damaged connection the second instrument/combustion air bottle rack did not pick up after the first was exhausted.	Bottle racks replaced. Analyzer was started up and calibrated, but did not have adequate sample flow. This was not noticed until the next day and was corrected.
3/25/19		12:00			
3/26/19	08:00	09:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
3/26/19	10:00	12:00	2	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
3/26/19	13:00	14:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
3/28/19	08:00	10:00	2	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			57		

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: CGA on 1/3/19

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

Total source operating time in reporting period: 2,159 hours

Ja CMS PERFORMANCE¹					
Date	Start	End	Duration (hours)	Cause	Corrective Action
1/3/19	10:00	11:00	1	Cylinder Gas Audit	N/A
1/4/19	8:00	9:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
1/4/19	10:00	11:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
1/11/19	10:00	11:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
1/21/19	10:00	11:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
2/28/19	09:00	11:00	2	Analyzer offline for scheduled preventative maintenance.	Calibrated and returned to service.
2/28/19	13:00	14:00	1	Analyzer adjusted for calibration drift.	Calibrated and returned to service.
3/6/19	13:00	14:00	1	Cylinder Gas Audit	N/A
3/23/19	19:00		19	Due to a damaged connection the second instrument/combustion air bottle rack did not pick up after the first was exhausted.	Bottle racks replaced. Calibrated and returned to service.
3/24/19		14:00			
TOTAL			28		

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 2,159 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.

**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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 2,159 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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 2,159 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.

DATA ASSESSMENT REPORT

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

Pollutant: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	SO ₂ #1 <u>(low scale)</u>	SO ₂ #2 <u>(high scale)</u>	O ₂ #1 <u>(low scale)</u>	O ₂ #2 <u>(high scale)</u>
Date of Audit	3/26/19	3/26/19	3/26/19	3/26/19
Audit Gas Cylinder No.	SG9150051BAL	CC125741	CC483689	SG9152263BAL
Date of Audit Gas Cert.	5/27/16	5/27/16	5/23/16	5/23/16
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	124.9 ppmv	274.5 ppmv	5.99 vol %	10.05 vol %
CEM Response Value	124.3 ppmv	247.0 ppmv	6.27 vol %	10.20 vol %
Accuracy	0.5%	10.0%	4.7%	1.5%
Standard	<15%	<15%	<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: **SO₂**

Applicable NSPS Subpart: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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.: ABB AO2000 Uras 26(SO₂)/ Magnos 206 (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 (CGA):

	SO ₂ #1 <u>(low scale)</u>	SO ₂ #2 <u>(high scale)</u>	O ₂ #1 <u>(low scale)</u>	O ₂ #2 <u>(high scale)</u>
Date of Audit	1/8/19	1/8/19	1/8/19	1/8/19
Audit Gas Cylinder No.	XC022957B	CC94008	CC483694	EB0063979
Date of Audit Gas Cert.	5/27/16	5/27/16	5/23/16	5/23/16
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	125.3 ppmv	275.3 ppmv	5.99 vol %	9.98 vol %
CEM Response Value	129.8 ppmv	279.6 ppmv	6.00 vol %	10.03 vol %
Accuracy	3.6%	1.6%	0.2%	0.5%
Standard	<15%	<15%	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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); Boiler B-7 (EPN 1-07, EQT 0011); MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033); DHT Charge Heater (EPN 5-73, EQT 0058)

CEM Sampling Location: Area 1 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/12/19	3/12/19
Audit Gas Cylinder No.	XC034939B	CC26703
Date of Audit Gas Cert.	5/23/16	5/27/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	76.0	175.3
CEM Response Value (ppmv)	76.0	177.3
Accuracy	0.0%	1.1%
Standard	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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: 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); Benzene Recovery Unit Reboiler (EPN 1-09, EQT 0127); NHT Charge Heater (EPN 1-17, EQT 0159)

CEM Sampling Location: Area 2 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/13/19	3/13/19
Audit Gas Cylinder No.	EB0062585	CC41503
Date of Audit Gas Cert.	5/23/16	5/27/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	76.7	176.4
CEM Response Value (ppmv)	71.7	168.2
Accuracy	6.5%	4.6%
Standard	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/13/19	3/13/19
Audit Gas Cylinder No.	CC467104	CC91595
Date of Audit Gas Cert.	5/23/16	5/27/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	78.0	169.9
CEM Response Value (ppmv)	75.9	167.2
Accuracy	2.7%	1.6%
Standard	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/12/19	3/12/19
Audit Gas Cylinder No.	CC182529	CC52088
Date of Audit Gas Cert.	5/23/16	5/27/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	78.4	166.7
CEM Response Value (ppmv)	77.7	167.3
Accuracy	0.9%	0.4%
Standard	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/22/19	3/22/19
Audit Gas Cylinder No.	CC421903	CC111958
Date of Audit Gas Cert.	5/23/16	5/27/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	78.1	171.5
CEM Response Value (ppmv)	73.2	159.3
Accuracy	6.3%	7.1%
Standard	<15%	<15%

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: 1/12/19, 05:00 – 1/13/19, 10:00 (29 hours)
2. Number of Days 1.2

- B. Corrective Actions: On 1/13/19 the span of the automatic calibration check was >4 times the Appendix B allowable limit below the reference gas value due to reduced flow through the analyzer. Valero cleaned the analyzer and adjusted the sample flow pressures/rates. Valero calibrated the analyzer and returned it to service.

DATA ASSESSMENT REPORT

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

Pollutant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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(NO_x), 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 (CGA):

	NO _x #1 <u>(low scale)</u>	NO _x #2 <u>(high scale)</u>	O ₂ #1 <u>(low scale)</u>	O ₂ #2 <u>(high scale)</u>
Date of Audit	1/4/19	1/4/19	1/4/19	1/4/19
Audit Gas Cylinder No.	CC330464	LL64747	LL53418	LL167062
Date of Audit Gas Cert.	6/2/16	5/3/16	1/28/14	1/28/14
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	25.2 ppmv	54.5 ppmv	6.01 vol %	10.01 vol %
CEM Response Value	25.2 ppmv	54.1 ppmv	6.00 vol %	10.00 vol %
Accuracy	0.0%	0.7%	0.2%	0.1%
Standard	<15%	<15%	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (NO_x), 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 (CGA):

	NO _x #1 <u>(low scale)</u>	NO _x #2 <u>(high scale)</u>	O ₂ #1 <u>(low scale)</u>	O ₂ #2 <u>(high scale)</u>
Date of Audit	1/8/19	1/8/19	1/8/19	1/8/19
Audit Gas Cylinder No.	CC330464	LL64747	LL53418	LL167062
Date of Audit Gas Cert.	6/2/16	5/3/16	1/28/14	1/28/14
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	25.2 ppmv	54.5 ppmv	6.01 vol %	10.01 vol %
CEM Response Value	25.5 ppmv	54.1 ppmv	6.01 vol %	10.01 vol %
Accuracy	1.2%	0.7%	0.0%	0.0%
Standard	<15%	<15%	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	NO _x #1 <u>(low scale)</u>	NO _x #2 <u>(high scale)</u>	O ₂ #1 <u>(low scale)</u>	O ₂ #2 <u>(high scale)</u>
Date of Audit	3/21/19	3/21/19	3/21/19	3/21/19
Audit Gas Cylinder No.	SG9167966	CC87303	LL269	LL168197
Date of Audit Gas Cert.	5/31/16	5/31/16	4/26/16	4/25/16
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	126.9 ppmv	270.5 ppmv	6.03 vol %	10.10 vol %
CEM Response Value	130.7 ppmv	267.7 ppmv	5.90 vol %	9.87 vol %
Accuracy	3.0%	1.0%	2.2%	2.3%
Standard	<15%	<15%	<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: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

<u>CGA</u>	<u>NO_x #1 (low scale)</u>	<u>NO_x #2 (high scale)</u>	<u>O₂ #1 (low scale)</u>	<u>O₂ #2 (high scale)</u>
Date of Audit	3/6/19	3/6/19	3/6/19	3/6/19
Audit Gas Cylinder No.	CC430476	CC307733	CC483658	CC87078
Date of Audit Gas Cert.	6/2/16	6/2/16	5/23/16	5/23/16
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	25.0 ppmv	55.8 ppmv	5.96 vol %	9.94 vol %
CEM Response Value	24.0 ppmv	54.0 ppmv	5.63 vol %	9.53 vol %
Accuracy	4.0%	3.2%	5.5%	4.1%
Standard	<15%	<15%	<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: Ja

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

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.: ABB Limas11 (NO_x), Magnos27 (O₂)

Process Unit(s) Description: NHT Charge Heater (EPN 1-17, EQT 0159)

CEM Sampling Location: NHT Charge Heater

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

I. ACCURACY ASSESSMENT RESULTS (CGA):

Initial Certification Scheduled for Week of 4/29/19.

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: ABB Limas11 (NO_x), Magnos27 (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 (CGA):

<u>CGA</u>	<u>NO_x #1</u> <u>(low scale)</u>	<u>NO_x #2</u> <u>(high scale)</u>	<u>O₂ #1</u> <u>(low scale)</u>	<u>O₂ #2</u> <u>(high scale)</u>
Date of Audit	3/26/19	3/26/19	3/26/19	3/26/19
Audit Gas Cylinder No.	LL178685	CC319153	CC483638	CC222165
Date of Audit Gas Cert.	5/2/16	6/2/16	5/23/16	5/23/16
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	24.7 ppmv	55.4 ppmv	5.99 vol %	9.96 vol %
CEM Response Value	25.3 ppmv	58.4 ppmv	6.10 vol %	10.10 vol %
Accuracy	2.8%	5.3%	1.8%	1.4%
Standard	<15%	<15%	<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: N/A (Required by Consent Decree: 3:10-cv-00563-bbc, Paragraph 36.a)

Reporting period dates: From 1/1/19 to 3/31/19

Date submitted: 4/30/19

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

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

Process Unit(s) Description: MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033)

CEM Sampling Location: MDH Product and Fractionator Heaters

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

I. ACCURACY ASSESSMENT RESULTS (CGA):

Initial Certification Scheduled for Week of 4/29/19.

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/13/19	3/13/19
Audit Gas Cylinder No.	CC441826	CC407913
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	Certified Gas ¹	Certified Gas ¹
Certified Audit Value	79.2 ppmv	175.6 ppmv
CEM Response Value	69.3 ppmv	158.7 ppmv
Accuracy	12.4%	9.6%
Standard	<15%	<15%

¹ Valero unable to obtain EPA Protocol 1 certified gases for the Methane balanced audit gas required by this analyzer.

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/13/19	3/13/19
Audit Gas Cylinder No.	CC441826	CC407913
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	Certified Gas ¹	Certified Gas ¹
Certified Audit Value (ppmv)	79.2 ppmv	175.6 ppmv
CEM Response Value (ppmv)	76.3 ppmv	173.7 ppmv
Accuracy	3.6%	1.1%
Standard	<15%	<15%

¹ Valero unable to obtain EPA Protocol 1 certified gases for the Methane balanced audit gas required by this analyzer.

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	3/28/19	3/28/19
Audit Gas Cylinder No.	CC441826	CC407913
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	Certified Gas ¹	Certified Gas ¹
Certified Audit Value	79.2 ppmv	175.6 ppmv
CEM Response Value	78.7 ppmv	179.0 ppmv
Accuracy	0.6%	1.9%
Standard	<15%	<15%

¹ Valero unable to obtain EPA Protocol 1 certified gases for the Methane balanced audit gas required by this analyzer.

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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	1/3/19	1/3/19
Audit Gas Cylinder No.	CC305316	CC92076
Date of Audit Gas Cert.	5/27/16	3/31/18
Type of Certification	EPA Protocol 1	Primary Standard 1
Certified Audit Value (ppmv)	1013.0 ppmv	10020.0 ppmv
CEM Response Value (ppmv)	965.7 ppmv	10012.0 ppmv
Accuracy	4.7%	0.1%
Standard	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	1/3/19	1/3/19
Audit Gas Cylinder No.	CC305316	CC92076
Date of Audit Gas Cert.	5/27/16	3/31/18
Type of Certification	EPA Protocol 1	Primary Standard 1
Certified Audit Value (ppmv)	1013.0 ppmv	10020.0 ppmv
CEM Response Value (ppmv)	968.7 ppmv	10002.7 ppmv
Accuracy	4.4%	0.2%
Standard	<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 1/1/19 to 3/31/19

Date submitted: 4/30/19

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 (CGA):

	H ₂ S #1 <u>(low scale)</u>	H ₂ S #2 <u>(high scale)</u>
Date of Audit	1/3/19	1/3/19
Audit Gas Cylinder No.	CC305316	CC92076
Date of Audit Gas Cert.	5/27/16	3/31/18
Type of Certification	EPA Protocol 1	Primary Standard1
Certified Audit Value	1013.0 ppmv	10020.0 ppmv
CEM Response Value	1055.0 ppmv	10233.3 ppmv
Accuracy	4.1%	2.1%
Standard	<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: 182740/182775

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)</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

Completed: 11/20/17

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

Commencement Date: 7/13/17

Completed: 7/25/17

New Action Item created for installation.

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

Completed: 9/25/17

Override implemented.

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

Completed: 9/26/17

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

Commencement Date: 7/13/17

Completed: 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

Completed: 8/22/17

New Action Item created for implementation.

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

Commencement Date: 7/13/17

Completed: 12/20/17

The extended delay time on the low lube oil permissive has made this unnecessary.

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

Completed: 8/16/17

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

Commencement Date: 7/18/17

Completed: 7/26/17

10) *Install check valve to prevent reverse flow from the PSA unit to the fuel gas system.*

Commencement Date: 7/25/17

Completed: 8/16/18

11) *Extend the delay on low lube oil permissive when starting the NHT Compressors, and add a time delay on the pressure trip.*

Commencement Date: 8/22/17

Completed: 12/12/17

(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
6/8/17 19:00	6/9/17 18:00	0	0	0.0	0.0
6/8/17 20:00	6/9/17 19:00	20,093	970	77.1	0.4
6/8/17 21:00	6/9/17 20:00	253,208	1092	189.5	1.0
6/8/17 22:00	6/9/17 21:00	282,223	1267	209.6	1.1
6/8/17 23:00	6/9/17 22:00	282,223	1267	209.6	1.1
6/9/17 0:00	6/9/17 23:00	282,223	1267	209.6	1.1
6/9/17 1:00	6/10/17 0:00	286,787	1270	209.6	1.1
6/9/17 2:00	6/10/17 1:00	505,196	1271	210.5	1.1
6/9/17 3:00	6/10/17 2:00	791,094	1272	211.6	1.1
6/9/17 4:00	6/10/17 3:00	935,716	1274	212.5	1.1
6/9/17 5:00	6/10/17 4:00	935,716	1274	212.5	1.1
6/9/17 6:00	6/10/17 5:00	951,526	1291	213.6	1.1
6/9/17 7:00	6/10/17 6:00	951,526	1291	213.6	1.1
6/9/17 8:00	6/10/17 7:00	951,526	1291	213.6	1.1
6/9/17 9:00	6/10/17 8:00	951,526	1291	213.6	1.1
6/9/17 10:00	6/10/17 9:00	952,890	1310	213.7	1.1
6/9/17 11:00	6/10/17 10:00	952,891	2317	213.7	1.1
6/9/17 12:00	6/10/17 11:00	952,891	2317	213.7	1.1
6/9/17 13:00	6/10/17 12:00	952,891	2317	213.7	1.1
6/9/17 14:00	6/10/17 13:00	952,891	2317	213.7	1.1
6/9/17 15:00	6/10/17 14:00	1,074,297	2345	227.3	1.2
6/9/17 16:00	6/10/17 15:00	1,074,298	2438	227.3	1.2
6/9/17 17:00	6/10/17 16:00	1,076,782	2724	230.1	1.2
6/9/17 18:00	6/10/17 17:00	1,080,402	3139	236.0	1.3
6/9/17 19:00	6/10/17 18:00	1,085,103	3682	246.1	1.3
6/9/17 20:00	6/10/17 19:00	1,066,297	4377	177.5	1.0
6/9/17 21:00	6/10/17 20:00	833,182	4255	65.1	0.3
6/9/17 22:00	6/10/17 21:00	804,334	4146	45.1	0.2
6/9/17 23:00	6/10/17 22:00	805,422	4591	47.0	0.3
6/10/17 0:00	6/10/17 23:00	805,422	4591	47.0	0.3
6/10/17 1:00	6/11/17 0:00	800,859	4588	46.9	0.3
6/10/17 2:00	6/11/17 1:00	582,450	4587	46.0	0.2
6/10/17 3:00	6/11/17 2:00	296,558	4745	44.9	0.2

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: 182915

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)</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 it's 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

Completed: 7/18/17

New Action Item created for completion of preventative maintenance at the next unit turnaround.

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

Completed: 10/31/17

3) *Complete the next preventative maintenance to replace the PSA wear and tear items in the next unit turnaround.*

Commencement Date: 7/18/17

Completed: 8/7/18

(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
6/14/17 17:00	6/15/17 16:00	129,365	2000	219.8	1.2
6/14/17 18:00	6/15/17 17:00	768,623	2002	225.0	1.2
6/14/17 19:00	6/15/17 18:00	1,910,283	2002	225.2	1.2
6/14/17 20:00	6/15/17 19:00	2,858,067	2004	232.6	1.2
6/14/17 21:00	6/15/17 20:00	3,675,376	2007	241.5	1.3
6/14/17 22:00	6/15/17 21:00	3,734,194	2031	247.1	1.3
6/14/17 23:00	6/15/17 22:00	3,671,798	1608	142.7	0.8
6/15/17 0:00	6/15/17 23:00	3,662,181	1179	126.4	0.7
6/15/17 1:00	6/16/17 0:00	3,660,856	1098	126.0	0.7
6/15/17 2:00	6/16/17 1:00	3,660,856	1098	126.0	0.7
6/15/17 3:00	6/16/17 2:00	3,637,341	422	63.2	0.3
6/15/17 4:00	6/16/17 3:00	3,637,102	380	63.2	0.3
6/15/17 5:00	6/16/17 4:00	3,604,924	98	27.3	0.1
6/15/17 6:00	6/16/17 5:00	3,604,924	98	27.3	0.1
6/15/17 7:00	6/16/17 6:00	3,604,924	98	27.3	0.1
6/15/17 8:00	6/16/17 7:00	3,604,924	98	27.3	0.1
6/15/17 9:00	6/16/17 8:00	3,604,924	98	27.3	0.1
6/15/17 10:00	6/16/17 9:00	3,604,829	31	27.3	0.1
6/15/17 11:00	6/16/17 10:00	3,609,714	166	29.9	0.2
6/15/17 12:00	6/16/17 11:00	3,610,367	219	30.1	0.2
6/15/17 13:00	6/16/17 12:00	3,610,367	1040	30.1	0.2
6/15/17 14:00	6/16/17 13:00	3,610,367	1040	30.1	0.2
6/15/17 15:00	6/16/17 14:00	3,610,367	1040	30.1	0.2
6/15/17 16:00	6/16/17 15:00	3,610,367	1040	30.1	0.2
6/15/17 17:00	6/16/17 16:00	3,610,367	1040	30.1	0.2
6/15/17 18:00	6/16/17 17:00	2,971,109	1038	24.9	0.1
6/15/17 19:00	6/16/17 18:00	1,829,449	1038	24.7	0.1
6/15/17 20:00	6/16/17 19:00	881,664	1036	17.3	0.1
6/15/17 21:00	6/16/17 20:00	64,355	1033	8.4	0.0

Subpart Ja Root Cause / Corrective Action Analysis

Incident Number: 186191/186237

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), SRU (SO2)</u>	Date of Event: <u>10/12/17</u>
Emissions Source(s):	<u>North Flare (EPN 20-72, EQT 0035)</u> <u>South Flare (EPN 3-77, EQT 0049)</u> <u>#3 SRU Incinerator (EPN 5-00, EQT 0079)</u>	Date Analysis Completed: <u>11/20/17</u>

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

A description of the Discharge:

At approximately 23:15 on 10/12/17, the Meraux Refinery experienced a partial loss of electrical power. Although the power was interruption was brief, multiple Refinery unit upsets and shutdowns were triggered. These upsets and shutdowns resulted in flaring and SO2 emissions from the North and South Flares > 500,000 SCF above baseline and > 500 lbs SO2 in a 24 hour period and SO2 emissions from the #3 SRU > 500 lbs above allowable in a 24 hour period.

After assessing the condition of the electrical power supply, Valero began the process of restarting the affected units late on 10/12/17. This continued until 10/15/17. Additionally, while loading a Hydrogen Make-Up Gas Compressor in the Middle Distillate Hydrogen Unit (MDH) at 20:12 on 10/14/17, the discharge PSV lifted and began passing pipeline Hydrogen to the North Flare, increasing the volume flared but having no effect on SO2 emissions. Valero was delayed in locating this source of flaring due to the MDH being connected to the South Flare and normally flaring on the South Flare, and this gas passing to the North Flare due to a low Flare Gas Recovery (FGR) Liquid Seal on the North Flare.

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

	Flaring	#3 SRU
Date and Time the discharge was first identified	<u>10/12/17 23:15</u>	<u>10/12/17 23:15</u>
Date/Time the discharge had ceased	<u>10/15/17 7:15</u>	<u>10/13/17 8:40</u>
Duration of Discharge (Calculated)	<u>56.0</u>	<u>9.4</u> hrs

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

The steps taken to limit the emissions during the discharge:

Valero initiated it's refinery sulfur shedding procedure and followed its Flare Minimization Plan and Operations Procedures to minimize the volume and SO2 emissions 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)

The root cause of the power interruption was a flashover on a failed insulator on one of the electrical transmission lines powering the refinery and surrounding area. As this event occurred on 3rd-party equipment located several miles from the refinery, there are no corrective actions available to refinery personnel.

The root causes of the additional flaring from the MDH Make-Up Gas Compressor were:

1) Refinery personnel were searching for sources on the North Flare and not the South Flare. Both flares are connected at the suction of the FGR unit, but normally flaring has occurred on the flare that the source is most directly connected to. However, in this case the low FGR Liquid Seal presented the path of least resistance and a source on the South Flare passed to the North Flare. Refinery personnel were not generally aware that this crossflow was possible and this was the first time that this has been observed.

2) FGR unit inlet flowmeters were not reading properly. This would have assisted operations in locating the source of flaring.

3) MDH Make-Up Compressor discharge PSV lifted during loading and did not re-seat when pressure returned to normal.

(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) Develop Operation Learning Bulletin on locating sources of flaring and review with Operations.

2) Evaluate the suitability of the FGR inlet flow meters.

3) Review the MDH Unit Start-Up procedure for appropriate time for loading compressor.

4) Pull and Inspect the Compressor discharge PSV at next opportunity and evaluate test frequency.

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

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) Develop Operation Learning Bulletin on locating sources of flaring and review with Operations.

Commencement Date: 11/20/17

Completed Date: 2/19/18

2) Evaluate the suitability of the FGR inlet flow meters.

Commencement Date: 11/20/17

Completed Date: 2/14/18

3) Review the MDH Unit Start-Up procedure for appropriate time for loading compressor.

Commencement Date: 11/20/17

Completed Date: 1/30/18

4) Pull and Inspect the Compressor discharge PSV at next opportunity and evaluate test frequency.

Commencement Date: 11/20/17

Completed Date: 2/19/19

The estimated completion date was extended due to rescheduling of the MDH unit turnaround.

(8.) North and South Flares

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
10/11/17 23:00	10/12/17 22:00	79,804	2,181	28	0
10/12/17 0:00	10/12/17 23:00	556,987	2213	713.0	3.8
10/12/17 1:00	10/13/17 0:00	1,370,333	2426	1575.6	8.5
10/12/17 2:00	10/13/17 1:00	2,030,227	2496	2157.3	11.6
10/12/17 3:00	10/13/17 2:00	2,569,527	2615	2497.9	13.4
10/12/17 4:00	10/13/17 3:00	3,044,471	2745	2763.7	14.9
10/12/17 5:00	10/13/17 4:00	3,357,929	2804	2847.1	15.3
10/12/17 6:00	10/13/17 5:00	3,713,991	2904	3006.0	16.2
10/12/17 7:00	10/13/17 6:00	3,962,626	2642	3051.3	16.4
10/12/17 8:00	10/13/17 7:00	4,126,690	2504	3093.6	16.6
10/12/17 9:00	10/13/17 8:00	4,279,062	2507	3107.1	16.7
10/12/17 10:00	10/13/17 9:00	4,431,763	2517	3123.1	16.8
10/12/17 11:00	10/13/17 10:00	4,655,723	2530	3148.2	16.9
10/12/17 12:00	10/13/17 11:00	4,761,204	2541	3159.2	17.0
10/12/17 13:00	10/13/17 12:00	4,822,724	2556	3166.8	17.0
10/12/17 14:00	10/13/17 13:00	4,887,499	2568	3176.4	17.1
10/12/17 15:00	10/13/17 14:00	4,929,459	2578	3181.5	17.1
10/12/17 16:00	10/13/17 15:00	4,935,909	2580	3182.0	17.1
10/12/17 17:00	10/13/17 16:00	4,942,066	2586	3182.6	17.1
10/12/17 18:00	10/13/17 17:00	5,005,683	2593	3187.8	17.1
10/12/17 19:00	10/13/17 18:00	5,018,620	2564	3187.8	17.1
10/12/17 20:00	10/13/17 19:00	5,020,739	2387	3184.6	17.1
10/12/17 21:00	10/13/17 20:00	5,022,906	2235	3182.8	17.1
10/12/17 22:00	10/13/17 21:00	5,023,978	1985	3180.7	17.1
10/12/17 23:00	10/13/17 22:00	5,013,053	1918	3177.3	17.1
10/13/17 0:00	10/13/17 23:00	4,538,493	1555	2490.1	13.4
10/13/17 1:00	10/14/17 0:00	3,727,819	1293	1627.3	8.7
10/13/17 2:00	10/14/17 1:00	3,076,264	1077	1043.9	5.6
10/13/17 3:00	10/14/17 2:00	2,641,487	933	708.6	3.8
10/13/17 4:00	10/14/17 3:00	2,257,652	804	447.1	2.4
10/13/17 5:00	10/14/17 4:00	1,950,902	821	365.9	2.0
10/13/17 6:00	10/14/17 5:00	1,590,761	796	207.1	1.1
10/13/17 7:00	10/14/17 6:00	1,341,159	809	159.4	0.9
10/13/17 8:00	10/14/17 7:00	1,179,119	755	115.8	0.6
10/13/17 9:00	10/14/17 8:00	1,023,963	819	102.5	0.6
10/13/17 10:00	10/14/17 9:00	870,258	797	86.5	0.5
10/13/17 11:00	10/14/17 10:00	644,711	1004	61.6	0.3
10/13/17 12:00	10/14/17 11:00	538,414	987	50.5	0.3
10/13/17 13:00	10/14/17 12:00	479,508	965	42.9	0.2
10/13/17 14:00	10/14/17 13:00	416,143	936	33.2	0.2
10/13/17 15:00	10/14/17 14:00	372,832	917	27.9	0.1
10/13/17 16:00	10/14/17 15:00	370,041	905	27.4	0.1
10/13/17 17:00	10/14/17 16:00	369,642	893	27.0	0.1
10/13/17 18:00	10/14/17 17:00	306,458	882	21.7	0.1
10/13/17 19:00	10/14/17 18:00	289,707	880	21.0	0.1
10/13/17 20:00	10/14/17 19:00	287,065	886	21.1	0.1
10/13/17 21:00	10/14/17 20:00	382,596	756	22.0	0.1
10/13/17 22:00	10/14/17 21:00	523,446	716	27.9	0.1

(8.) North and South Flares cont.**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
10/13/17 23:00	10/14/17 22:00	666,165	729	35.1	0.2
10/14/17 0:00	10/14/17 23:00	746,398	743	39.9	0.2
10/14/17 1:00	10/15/17 0:00	793,002	751	42.8	0.2
10/14/17 2:00	10/15/17 1:00	837,473	775	49.1	0.3
10/14/17 3:00	10/15/17 2:00	729,010	772	43.0	0.2
10/14/17 4:00	10/15/17 3:00	638,115	761	38.6	0.2
10/14/17 5:00	10/15/17 4:00	632,643	679	36.3	0.2
10/14/17 6:00	10/15/17 5:00	671,569	593	36.2	0.2
10/14/17 7:00	10/15/17 6:00	729,056	539	37.6	0.2
10/14/17 8:00	10/15/17 7:00	735,319	540	37.9	0.2
10/14/17 9:00	10/15/17 8:00	733,951	464	37.3	0.2
10/14/17 10:00	10/15/17 9:00	740,787	470	37.5	0.2
10/14/17 11:00	10/15/17 10:00	751,739	245	37.7	0.2
10/14/17 12:00	10/15/17 11:00	752,383	246	37.7	0.2
10/14/17 13:00	10/15/17 12:00	750,985	246	37.7	0.2
10/14/17 14:00	10/15/17 13:00	754,828	247	37.8	0.2
10/14/17 15:00	10/15/17 14:00	752,406	246	37.7	0.2
10/14/17 16:00	10/15/17 15:00	748,801	245	37.6	0.2
10/14/17 17:00	10/15/17 16:00	743,389	244	37.4	0.2
10/14/17 18:00	10/15/17 17:00	742,007	241	37.3	0.2
10/14/17 19:00	10/15/17 18:00	744,422	235	37.3	0.2
10/14/17 20:00	10/15/17 19:00	745,108	227	37.2	0.2
10/14/17 21:00	10/15/17 20:00	646,907	219	32.4	0.2
10/14/17 22:00	10/15/17 21:00	506,614	212	25.8	0.1
10/14/17 23:00	10/15/17 22:00	363,791	206	18.7	0.1

(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 H2S
10/11/17 23:00	10/12/17 22:00	26,160,801	61	265.7	1.4
10/12/17 0:00	10/12/17 23:00	25,713,844	78	309.4	1.7
10/12/17 1:00	10/13/17 0:00	25,016,353	110	349.0	1.9
10/12/17 2:00	10/13/17 1:00	24,388,653	148	408.7	2.2
10/12/17 3:00	10/13/17 2:00	23,756,876	188	470.0	2.5
10/12/17 4:00	10/13/17 3:00	23,103,815	217	512.7	2.8
10/12/17 5:00	10/13/17 4:00	22,489,649	220	512.0	2.8
10/12/17 6:00	10/13/17 5:00	22,399,688	245	609.2	3.3
10/12/17 7:00	10/13/17 6:00	22,464,459	284	786.0	4.2
10/12/17 8:00	10/13/17 7:00	22,404,515	300	850.0	4.6
10/12/17 9:00	10/13/17 8:00	22,384,394	304	864.6	4.6
10/12/17 10:00	10/13/17 9:00	21,985,042	306	865.2	4.7
10/12/17 11:00	10/13/17 10:00	21,503,107	307	862.8	4.6

(9.) #3 SRU cont.**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 cumulative SO ₂ ²	24-hr cumulative reduced sulfur
			(24-hr average, flow-weighted) ¹		
		SCF	ppmv	lbs	lbs as H ₂ S
10/12/17 12:00	10/13/17 11:00	20,965,577	308	859.3	4.6
10/12/17 13:00	10/13/17 12:00	20,375,776	309	854.7	4.6
10/12/17 14:00	10/13/17 13:00	19,826,919	309	850.8	4.6
10/12/17 15:00	10/13/17 14:00	19,395,604	311	851.0	4.6
10/12/17 16:00	10/13/17 15:00	19,004,978	313	853.5	4.6
10/12/17 17:00	10/13/17 16:00	18,684,168	315	857.2	4.6
10/12/17 18:00	10/13/17 17:00	18,422,720	319	865.3	4.7
10/12/17 19:00	10/13/17 18:00	18,163,433	320	867.3	4.7
10/12/17 20:00	10/13/17 19:00	17,879,891	321	867.6	4.7
10/12/17 21:00	10/13/17 20:00	17,617,428	322	868.5	4.7
10/12/17 22:00	10/13/17 21:00	17,310,203	324	872.4	4.7
10/12/17 23:00	10/13/17 22:00	16,922,143	327	875.9	4.7
10/13/17 0:00	10/13/17 23:00	17,018,368	313	836.7	4.5
10/13/17 1:00	10/14/17 0:00	17,360,271	283	801.4	4.3
10/13/17 2:00	10/14/17 1:00	17,637,067	248	746.5	4.0
10/13/17 3:00	10/14/17 2:00	17,938,692	212	690.8	3.7
10/13/17 4:00	10/14/17 3:00	18,269,294	186	656.0	3.5
10/13/17 5:00	10/14/17 4:00	18,552,968	186	661.8	3.6
10/13/17 6:00	10/14/17 5:00	18,346,251	164	570.2	3.1
10/13/17 7:00	10/14/17 6:00	17,990,768	128	399.4	2.1

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: 372656*The information contained below satisfies the requirements of the NSPS Subpart Ja 60.108a(c)(6).*
 Report: Update
 Refinery: Valero (Meraux)
 Incident Type: Flaring (Flow)
 Emissions Source(s): North Flare (EPN 20-72, EQT 0035)

 Date of Event: 6/15/18
 Date Analysis Completed: 7/26/18
(1.) (60.108a(c)(6)(i))**A description of the Discharge:**

On June 14, 2018 at approximately 06:45, while unloading one of the Naphtha Hydrotreater (NHT) compressors in preparation for maintenance, it made an abnormal noise and shutdown. Immediately after this, the remaining compressor also shutdown which required Valero to perform unplanned shutdowns of the NHT and downstream Reformer unit.

A small amount of flaring of Hydrogen rich gas occurred during the unit shutdowns, but the bulk of the gas volume flared began on June 15, 2018 at approximately 09:06 as part of a normal Reformer start up.

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

	North Flare
Date and Time the discharge was first identified	<u>6/15/18 9:06</u>
Date/Time the discharge had ceased	<u>6/15/18 17:30</u>
Duration of Discharge (Calculated)	<u>8.4</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)

Valero has determined the root cause of this incident to be liquids accumulating in the NHT Make-Up Compressor suction line piping. Contributing to this was the fact that prior to this the NHT was operated with the valve supplying offsite vendor Hydrogen open leaving the Make-Up Compressors lightly loaded. When this valve was shut and the compressor that was being shut down was unloaded, the load on the remaining compressor rapidly increased. This dislodged the accumulated liquid into the Make-Up Compressor Suction Drum where it was detected as a high level and automatically shut down both compressors.

(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) Evaluate the piping lay out from the Chloride Treater to the NHT Compressor Make-Up Drum for improvements to prevent liquid accumulation.
- 2) Add a step to the operating procedures to open the drain lines on the Make-Up Compressor Suction Drum prior to increasing load on a compressor.
- 3) Add to the NHT Night Orders a warning not to use the valve supplying offsite vendor Hydrogen unless it is required.

(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) Evaluate the piping lay out from the Chloride Treater to the NHT Compressor Make-Up Drum for improvements to prevent liquid accumulation.
Commencement Date: 7/26/18
Completed: 12/4/18
- 2) Add a step to the operating procedures to open the drain lines on the Make-Up Compressor Suction Drum prior to increasing load on a compressor.
Commencement Date: 7/26/18
Completed: 10/2/18
- 3) Add to the NHT Night Orders a warning not to use the valve supplying offsite vendor Hydrogen unless it is required.
Commencement Date: 7/26/18
Completed: 10/2/18
- 4) Complete the piping lay out changes identified in the previous corrective action.
Commencement Date: 12/4/18
Estimated Completion Date: 6/1/21
Previous estimated completion date was incorrect.

(8.) North and South Flares

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
6/14/18 10:00	6/15/18 9:00	409,160	178	11.2	0.1
6/14/18 11:00	6/15/18 10:00	920,821	178	11.9	0.1
6/14/18 12:00	6/15/18 11:00	1,504,335	112	8.4	0.0
6/14/18 13:00	6/15/18 12:00	1,569,958	113	8.4	0.0
6/14/18 14:00	6/15/18 13:00	1,571,770	113	8.4	0.0
6/14/18 15:00	6/15/18 14:00	1,571,770	113	8.4	0.0
6/14/18 16:00	6/15/18 15:00	1,654,807	115	8.9	0.0
6/14/18 17:00	6/15/18 16:00	1,870,248	81	9.0	0.0
6/14/18 18:00	6/15/18 17:00	1,866,092	70	7.7	0.0
6/14/18 19:00	6/15/18 18:00	1,842,613	55	6.3	0.0
6/14/18 20:00	6/15/18 19:00	1,834,844	45	6.0	0.0
6/14/18 21:00	6/15/18 20:00	1,805,169	26	3.7	0.0
6/14/18 22:00	6/15/18 21:00	1,802,890	16	3.6	0.0
6/14/18 23:00	6/15/18 22:00	1,802,890	16	3.6	0.0
6/15/18 0:00	6/15/18 23:00	1,802,890	16	3.6	0.0
6/15/18 1:00	6/16/18 0:00	1,802,890	16	3.6	0.0
6/15/18 2:00	6/16/18 1:00	1,802,884	9	3.6	0.0
6/15/18 3:00	6/16/18 2:00	1,802,884	9	3.6	0.0
6/15/18 4:00	6/16/18 3:00	1,802,884	9	3.6	0.0
6/15/18 5:00	6/16/18 4:00	1,802,884	9	3.6	0.0
6/15/18 6:00	6/16/18 5:00	1,802,758	8	3.6	0.0
6/15/18 7:00	6/16/18 6:00	1,802,758	8	3.6	0.0
6/15/18 8:00	6/16/18 7:00	1,802,737	7	3.6	0.0
6/15/18 9:00	6/16/18 8:00	1,802,670	6	3.6	0.0
6/15/18 10:00	6/16/18 9:00	1,511,218	6	3.0	0.0
6/15/18 11:00	6/16/18 10:00	999,557	5	2.3	0.0
6/15/18 12:00	6/16/18 11:00	400,009	5	1.7	0.0

Subpart Ja Root Cause / Corrective Action Analysis

Incident Number: 372839/372889

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

Report: Final
 Refinery: Valero (Meraux)
 Incident Type: SRU (SO2)
 Emissions Source(s): #2 SRU Incinerator (EPN 1-93, EQT 0019)
#3 SRU Incinerator (EPN 5-00, EQT 0079)

Date of Event: 6/21/18
 Date Analysis Completed: 8/2/18

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

A description of the Discharge:
 On June 21, 2018 at approximately 03:00, the #2 Sulfur Recovery Unit (SRU) Incinerator shutdown. Valero quickly reduced the refinery's sulfur production and transferred acid gas to the #3 SRU. The #2 SRU was kept in a hot standby condition while Valero began troubleshooting the #2 SRU Incinerator. While this troubleshooting was in progress, at approximately 08:03, the #2 Tail Gas Treater (TGT) shutdown. The #2 SRU Incinerator was restarted at approximately 13:09, but despite several attempts, Valero could not re-light the #2 TGT Burner until 06:31 on June 23. Excess SO2 emissions continued until the #2 SRU was stabilized at 20:15.

 SO2 emissions greater than 500 lbs above allowable in a 24 hour period were released primarily from the #2 SRU after the #2 TGT shutdown, with small contributions from the #3 SRU when acid gas was rapidly transferred from the #2 SRU.

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

	#2 SRU	#3 SRU
Date/Time discharge was first identified	<u>6/21/18 3:37</u>	<u>6/21/18 3:37</u>
Date/Time discharge had ceased	<u>6/23/18 20:15</u>	<u>6/21/18 7:44</u>
Duration of Discharge (Calculated)	<u>64.6</u>	<u>4.1</u> hrs

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

The steps taken to limit the emissions during the discharge:
 Valero followed its Sulfur Shedding Plan and Operations Procedures to the maximum extent possible to minimize the SO2 emissions from this event.

(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? No (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? No (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)
 The root cause of the shutdown of the #2 SRU Incinerator was the failure of an air flow transmitter. The loss of the #2 TGT later while the #2 SRU was in hot standby was due to reduced natural gas flow to the #2 TGT Burner causing flame instability and a burner fire-eye trip. The difficulty relighting the #2 TGT Burner was due to inconsistent operation of the pilot gas Maxon valve, pressure surges into the burner when the main burner when the main burner Maxon valve opens causing the flame to be snuffed out and the inability for the field operator to regulate the natural gas supply pressure during the relight sequence.

(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 necessary.
 Is corrective action required? Yes (Yes/No)
 1) Identify all other transmitters in the SRU's of the same type as the one that failed in this event and develop recommendations for replacement.
 2) Evaluate setting controller set point limits to ensure that natural gas flow to the #3 TGT Burner does not go below the minimum value that ensures flame stability.
 3) Evaluate a redesign of the #2 TGT Burner controls to address the issues identified in this investigation.

(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) Identify all other transmitters in the SRU's of the same type as the one that failed in this event and develop recommendations for replacement.

Commencement Date: 8/2/18

Completed Date: 8/30/18

2) Evaluate setting controller set point limits to ensure that natural gas flow to the #3 TGT Burner does not go below the minimum value that ensures flame stability.

Commencement Date: 8/2/18

Completed Date: 9/19/18

3) Evaluate a redesign of the #2 TGT Burner controls to address the issues identified in this investigation.

Commencement Date: 8/2/18

Completed Date: 12/21/18

4) Implement the changes to the #2 TGT Burner controls identified in the previous corrective action.

Commencement Date: 12/21/18

Completed Date: 4/2/19

(9.) #2 and #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	SO2 ppm (24-hr average, flow-weighted) ¹	24-hr cumulative SO2 above allowable ²	24-hr cumulative reduced sulfur above allowable
		SCF	ppmv	lbs	lbs as H2S
6/20/18 4:00	6/21/18 3:00	555,901	47	0.0	0.0
6/20/18 5:00	6/21/18 4:00	709,837	80	69.4	0.0
6/20/18 6:00	6/21/18 5:00	798,944	102	116.4	0.0
6/20/18 7:00	6/21/18 6:00	881,482	125	167.4	0.0
6/20/18 8:00	6/21/18 7:00	877,082	128	167.4	0.0
6/20/18 9:00	6/21/18 8:00	838,038	132	171.7	0.0
6/20/18 10:00	6/21/18 9:00	823,290	136	181.0	0.1
6/20/18 11:00	6/21/18 10:00	820,818	140	188.3	0.1
6/20/18 12:00	6/21/18 11:00	818,152	151	210.0	0.1
6/20/18 13:00	6/21/18 12:00	816,998	155	215.1	0.2
6/20/18 14:00	6/21/18 13:00	852,071	168	247.0	0.3
6/20/18 15:00	6/21/18 14:00	895,423	187	289.2	0.6
6/20/18 16:00	6/21/18 15:00	883,869	198	328.6	0.8
6/20/18 17:00	6/21/18 16:00	884,025	212	369.8	1.0
6/20/18 18:00	6/21/18 17:00	866,498	225	411.8	1.2
6/20/18 19:00	6/21/18 18:00	864,154	240	454.7	1.5
6/20/18 20:00	6/21/18 19:00	854,776	256	496.1	1.7
6/20/18 21:00	6/21/18 20:00	856,436	273	538.1	1.9
6/20/18 22:00	6/21/18 21:00	872,667	292	583.9	2.1
6/20/18 23:00	6/21/18 22:00	875,738	312	630.5	2.4
6/21/18 0:00	6/21/18 23:00	868,307	330	673.1	2.6
6/21/18 1:00	6/22/18 0:00	854,349	348	714.4	2.8
6/21/18 2:00	6/22/18 1:00	835,780	366	754.7	3.0
6/21/18 3:00	6/22/18 2:00	825,935	382	794.1	3.2
6/21/18 4:00	6/22/18 3:00	815,946	397	831.7	3.4
6/21/18 5:00	6/22/18 4:00	811,116	381	798.8	3.6
6/21/18 6:00	6/22/18 5:00	812,387	373	788.2	3.8
6/21/18 7:00	6/22/18 6:00	811,844	367	773.7	4.0
6/21/18 8:00	6/22/18 7:00	814,662	382	811.9	4.2
6/21/18 9:00	6/22/18 8:00	820,319	392	845.3	4.4
6/21/18 10:00	6/22/18 9:00	828,279	395	873.5	4.6
6/21/18 11:00	6/22/18 10:00	830,330	403	903.8	4.7
6/21/18 12:00	6/22/18 11:00	830,187	404	919.8	4.9
6/21/18 13:00	6/22/18 12:00	829,034	414	952.4	5.1
6/21/18 14:00	6/22/18 13:00	833,310	415	958.1	5.1
6/21/18 15:00	6/22/18 14:00	832,599	420	953.8	5.1
6/21/18 16:00	6/22/18 15:00	834,362	419	952.3	5.1

(9.) #2 and #3 SRU cont.

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	SO2 ppm (24-hr average, flow-weighted) ¹	24-hr cumulative SO2 above allowable ²	24-hr cumulative reduced sulfur above allowable
		SCF	ppmv	lbs	lbs as H2S
6/21/18 17:00	6/22/18 16:00	841,059	416	949.0	5.1
6/21/18 18:00	6/22/18 17:00	835,918	419	945.0	5.0
6/21/18 19:00	6/22/18 18:00	829,706	418	940.0	5.0
6/21/18 20:00	6/22/18 19:00	825,814	417	936.5	5.0
6/21/18 21:00	6/22/18 20:00	798,580	427	932.6	5.0
6/21/18 22:00	6/22/18 21:00	801,683	417	924.9	4.9
6/21/18 23:00	6/22/18 22:00	829,226	400	904.9	4.9
6/22/18 0:00	6/22/18 23:00	803,727	405	877.0	4.7
6/22/18 1:00	6/23/18 0:00	797,492	394	849.6	4.6
6/22/18 2:00	6/23/18 1:00	795,808	384	823.0	4.4
6/22/18 3:00	6/23/18 2:00	796,168	373	798.1	4.3
6/22/18 4:00	6/23/18 3:00	782,684	333	788.6	4.2
6/22/18 5:00	6/23/18 4:00	775,217	317	777.8	4.2
6/22/18 6:00	6/23/18 5:00	774,364	312	766.9	4.1
6/22/18 7:00	6/23/18 6:00	779,085	317	756.2	4.1
6/22/18 8:00	6/23/18 7:00	786,201	317	743.1	4.0
6/22/18 9:00	6/23/18 8:00	798,093	317	730.9	3.9
6/22/18 10:00	6/23/18 9:00	803,803	314	719.0	3.9
6/22/18 11:00	6/23/18 10:00	809,200	318	707.1	3.8
6/22/18 12:00	6/23/18 11:00	810,642	315	695.1	3.7
6/22/18 13:00	6/23/18 12:00	816,786	314	683.4	3.7
6/22/18 14:00	6/23/18 13:00	834,018	332	672.6	3.6
6/22/18 15:00	6/23/18 14:00	826,973	311	660.6	3.5
6/22/18 16:00	6/23/18 15:00	833,418	307	648.6	3.5
6/22/18 17:00	6/23/18 16:00	836,035	302	636.2	3.4
6/22/18 18:00	6/23/18 17:00	835,939	298	623.6	3.4
6/22/18 19:00	6/23/18 18:00	842,875	289	595.1	3.2
6/22/18 20:00	6/23/18 19:00	850,369	280	573.3	3.0
6/22/18 21:00	6/23/18 20:00	851,209	277	546.4	2.8
6/22/18 22:00	6/23/18 21:00	843,344	282	531.1	2.6
6/22/18 23:00	6/23/18 22:00	775,321	343	504.4	2.4
6/23/18 0:00	6/23/18 23:00	643,419	364	489.8	2.4

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 Analysis

Incident Number: 372988

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

Report: Update
 Refinery: Valero (Meraux)
 Incident Type: Flaring (Flow and SO2)
 Emissions Source(s): North Flare (EPN 20-72, EQT 0035)

Date of Event: 6/26/18
 Date Analysis Completed: 8/9/18

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

A description of the Discharge:

On June 26, 2018 at approximately 10:55 AM, the Hydrocracker Unit experienced an automatic safety shutdown following an unplanned trip of a Recycle Gas Compressor (RGC). A controlled depressurization to the North Flare immediately followed causing the release of SO2 emissions greater than 500 lbs and volume greater than 500,000 SCF in a 24 hour period. The gas flared during this depressurization was primarily hydrogen with hydrogen sulfide (H2S) also present in low concentration.

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

North Flare

Date/Time discharge was first identified 6/26/18 10:56
 Date/Time discharge had ceased 6/26/18 16:50
 Duration of Discharge (Calculated) 5.9 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 the maximum extent possible to minimize the volume and SO2 emissions 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? No (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? No (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)

The RGC shut down on loss of the inboard and outboard seals after the compressor experienced elevated vibrations. The root cause of this incident was high pH liquid carry over into the compressor which led to mechanical failure of compressor components.

(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 necessary.

Is corrective action required? Yes (Yes/No)

- 1) Run the Water Wash to the Recycle Gas Scrubber.
- 2) Evaluate installing seals capable of handling high pH material.
- 3) Repair damaged compressor components.
- 4) Evaluate installing a flow meter on the motive steam to the RGC to help troubleshoot and evaluate performance.

(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) Run the Water Wash to the Recycle Gas Scrubber.

Commencement Date: 8/9/18

Completed Date: 8/9/18

2) Evaluate installing seals capable of handling high pH material.

Commencement Date: 8/9/18

Completed Date: 12/12/18

3) Repair damaged compressor components.

Commencement Date: 8/9/18

Completed Date: 8/9/18

4) Evaluate installing a flow meter on the motive steam to the RGC to help troubleshoot and evaluate performance.

Commencement Date: 8/9/18

Completed Date: 12/11/18

5) Install a flow meter on the motive steam to the RGC.

Commencement Date: 12/11/18

Estimated Completion Date: 12/29/20

Previous estimated completion date was incorrect.

(8.) North and South Flares

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	TRS or H2S ppm (24-hr average, flow-weighted)	24-hr cumulative SO2	24-hr cumulative reduced sulfur
		Baseline			
		SCF	ppmv	lbs	lbs as H2S
6/25/18 11:00	6/26/18 10:00	59,173	83	19.4	0.1
6/25/18 12:00	6/26/18 11:00	2,682,155	135	560.3	3.0
6/25/18 13:00	6/26/18 12:00	4,101,734	139	579.3	3.1
6/25/18 14:00	6/26/18 13:00	4,568,472	154	607.4	3.3
6/25/18 15:00	6/26/18 14:00	4,664,301	204	626.5	3.4
6/25/18 16:00	6/26/18 15:00	4,753,300	233	636.7	3.4
6/25/18 17:00	6/26/18 16:00	4,778,658	252	638.5	3.4
6/25/18 18:00	6/26/18 17:00	4,778,658	252	638.5	3.4
6/25/18 19:00	6/26/18 18:00	4,778,658	252	638.5	3.4
6/25/18 20:00	6/26/18 19:00	4,778,658	252	638.5	3.4
6/25/18 21:00	6/26/18 20:00	4,778,658	252	638.5	3.4
6/25/18 22:00	6/26/18 21:00	4,778,658	252	638.5	3.4
6/25/18 23:00	6/26/18 22:00	4,778,658	252	638.5	3.4
6/26/18 0:00	6/26/18 23:00	4,778,658	252	638.5	3.4
6/26/18 1:00	6/27/18 0:00	4,801,300	299	642.8	3.5
6/26/18 2:00	6/27/18 1:00	4,801,300	299	642.8	3.5
6/26/18 3:00	6/27/18 2:00	4,801,300	299	642.8	3.5
6/26/18 4:00	6/27/18 3:00	4,801,300	299	642.8	3.5
6/26/18 5:00	6/27/18 4:00	4,801,300	299	642.8	3.5
6/26/18 6:00	6/27/18 5:00	4,801,300	299	642.8	3.5
6/26/18 7:00	6/27/18 6:00	4,801,300	299	642.8	3.5
6/26/18 8:00	6/27/18 7:00	4,801,300	299	642.8	3.5
6/26/18 9:00	6/27/18 8:00	4,801,300	299	642.8	3.5
6/26/18 10:00	6/27/18 9:00	4,801,300	299	642.8	3.5
6/26/18 11:00	6/27/18 10:00	4,742,126	216	623.3	3.3
6/26/18 12:00	6/27/18 11:00	2,119,145	164	82.5	0.4
6/26/18 13:00	6/27/18 12:00	699,566	160	63.5	0.3
6/26/18 14:00	6/27/18 13:00	232,842	154	35.4	0.2

Subpart Ja Root Cause / Corrective Action AnalysisIncident Number: **386213***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)
 Emissions Source(s): North Flare (EPN 20-72, EQT 0035)

Date of Event: 11/12/18
 Date Analysis Completed: 12/27/18

(1.) (60.108a(c)(6)(i))**A description of the Discharge:**

On November 12, 2018 at approximately 07:30, the Make Up Gas Compressor "B" (MUG B) in the Hydrocracker Unit tripped offline on high temperature while reducing compressor loading from 90% to 50%. Valero began troubleshooting to determine the cause of the trip which included multiple attempts to re-start and load the compressor. On the last attempt at approximately 10:34, the 1st stage pressure control valve opened and sent make up Hydrogen to the flare. Make up Hydrogen is high purity Hydrogen with little to no H2S. The position of this 1st stage pressure control valve was incorrectly displayed as closed in the control room which delayed the operators from responding to reduce or stop the flaring.

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

Date and Time the discharge was first identified 11/12/18 10:35
 Date/Time the discharge had ceased 11/12/18 12:03
 Duration of Discharge (Calculated) 1.5 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. Once Valero was aware that the valve position indication was incorrect, the flaring was stopped.

(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? No (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? No (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)

Valero has determined the root causes of the high temperature trip of MUG N was delamination of the 2nd stage valve plate material and wrong material in the 3rd stage valves. The incorrect valve position was caused by a malfunctioning positioner on the 1st stage pressure control valve.

(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) Conduct Third Party Failure Analysis and issue recommended changes to valves material.

2) Troubleshoot and repair 1st stage pressure control valve positioner.

3) Install feedback position indication on the 1st stage pressure control valve.

(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 Third Party Failure Analysis and issue recommended changes to valves material.

Commencement Date: 12/27/18

Completed: 3/12/19

2) Troubleshoot and repair 1st stage pressure control valve positioner.

Commencement Date: 12/27/18

Completed: 2/12/19

3) Install feedback position indication on the 1st stage pressure control valve.

Commencement Date: 12/27/18

Completed: 1/8/19

(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.

First hour of 24-hr Period	Last hour of 24-hr Period	(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
		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
11/11/18 10:00	11/12/18 9:00	501,656	15	6.4	0.0
11/11/18 11:00	11/12/18 10:00	740,582	66	8.7	0.0
11/11/18 12:00	11/12/18 11:00	1,687,256	23	11.6	0.1
11/11/18 13:00	11/12/18 12:00	1,608,614	7	10.6	0.1
11/11/18 14:00	11/12/18 13:00	1,530,504	6	9.7	0.1
11/11/18 15:00	11/12/18 14:00	1,453,329	23	8.9	0.0
11/11/18 16:00	11/12/18 15:00	1,379,141	9	8.0	0.0
11/11/18 17:00	11/12/18 16:00	1,344,535	9	7.6	0.0
11/11/18 18:00	11/12/18 17:00	1,344,455	10	7.6	0.0
11/11/18 19:00	11/12/18 18:00	1,344,372	9	7.6	0.0
11/11/18 20:00	11/12/18 19:00	1,344,286	10	7.6	0.0
11/11/18 21:00	11/12/18 20:00	1,344,213	12	7.6	0.0
11/11/18 22:00	11/12/18 21:00	1,344,138	13	7.6	0.0
11/11/18 23:00	11/12/18 22:00	1,344,056	11	7.6	0.0
11/12/18 0:00	11/12/18 23:00	1,343,961	10	7.6	0.0
11/12/18 1:00	11/13/18 0:00	1,343,882	10	7.6	0.0
11/12/18 2:00	11/13/18 1:00	1,343,802	12	7.6	0.0
11/12/18 3:00	11/13/18 2:00	1,373,906	131	8.3	0.0
11/12/18 4:00	11/13/18 3:00	1,470,027	111	10.1	0.1
11/12/18 5:00	11/13/18 4:00	1,549,718	119	11.8	0.1
11/12/18 6:00	11/13/18 5:00	1,635,963	120	13.6	0.1
11/12/18 7:00	11/13/18 6:00	1,710,250	93	14.8	0.1
11/12/18 8:00	11/13/18 7:00	1,783,402	110	16.2	0.1
11/12/18 9:00	11/13/18 8:00	1,859,382	93	17.4	0.1
11/12/18 10:00	11/13/18 9:00	1,907,682	111	18.4	0.1
11/12/18 11:00	11/13/18 10:00	1,592,143	12	14.9	0.1
11/12/18 12:00	11/13/18 11:00	568,266	14	11.0	0.1
11/12/18 13:00	11/13/18 12:00	566,489	15	11.0	0.1
11/12/18 14:00	1/0/00 0:00	566,442	0	11.0	0.1
11/12/18 15:00	1/0/00 0:00	566,442	0	11.0	0.1
11/12/18 16:00	1/0/00 0:00	566,442	0	11.0	0.1

Note: Flaring from the planned shutdown of an LPG Sphere began at approximately 02:40 on 11/13/18.

Subpart Ja Root Cause / Corrective Action AnalysisIncident 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)
 Emissions Source(s): South Flare (EPN 3-77, EQT 0049)

 Date of Event: 1/12/19
 Date Analysis Completed: N/A

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

A description of the Discharge:

This discharge resulted from the normal shutdown of the Middle Distillate Hydrotreater Unit for planned maintenance and included activities such as reactor cooldown, depressurization, and Nitrogen purging. The end of this discharge overlapped with the Napata Hydrotreater Unit shutdown on 1/15/19.

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

 Date and Time the discharge was first identified 1/12/19 10:10
 Date/Time the discharge had ceased 1/15/19 13:23
 Duration of Discharge (Calculated) 75.2 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. Additional purges and Nitrogen volume was required to comply with the maintenance vent provisions of 40 CFR 63.643 as well as additional supplemental natural gas required to comply with the Net Heating Value of the Combustion Zone limit (> 270 Btu/scf) of 40 CFR 63.670, which will become effective on January 30, 2019.

(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>Yes</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>Yes</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)
 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 not
 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
1/11/19 10:00	1/12/19 9:00	16,794	12	0.2	0.0
1/11/19 11:00	1/12/19 10:00	70,439	72	0.9	0.0
1/11/19 12:00	1/12/19 11:00	179,330	38	1.6	0.0
1/11/19 13:00	1/12/19 12:00	257,741	21	1.9	0.0
1/11/19 14:00	1/12/19 13:00	426,723	17	2.4	0.0
1/11/19 15:00	1/12/19 14:00	728,929	23	3.5	0.0
1/11/19 16:00	1/12/19 15:00	1,055,692	19	4.6	0.0
1/11/19 17:00	1/12/19 16:00	1,377,928	18	5.5	0.0
1/11/19 18:00	1/12/19 17:00	1,682,092	20	6.6	0.0
1/11/19 19:00	1/12/19 18:00	1,990,619	20	7.6	0.0
1/11/19 20:00	1/12/19 19:00	2,296,175	20	8.6	0.0
1/11/19 21:00	1/12/19 20:00	2,596,594	23	9.7	0.1
1/11/19 22:00	1/12/19 21:00	2,903,464	20	10.7	0.1
1/11/19 23:00	1/12/19 22:00	3,204,944	16	11.5	0.1
1/12/19 0:00	1/12/19 23:00	3,510,583	16	12.3	0.1
1/12/19 1:00	1/13/19 0:00	3,818,904	17	13.2	0.1
1/12/19 2:00	1/13/19 1:00	4,125,034	15	14.0	0.1
1/12/19 3:00	1/13/19 2:00	4,433,087	14	14.7	0.1
1/12/19 4:00	1/13/19 3:00	4,731,564	14	15.3	0.1
1/12/19 5:00	1/13/19 4:00	5,036,724	12	16.0	0.1
1/12/19 6:00	1/13/19 5:00	5,338,997	12	16.5	0.1
1/12/19 7:00	1/13/19 6:00	5,642,322	12	17.1	0.1
1/12/19 8:00	1/13/19 7:00	5,947,084	68	20.6	0.1
1/12/19 9:00	1/13/19 8:00	6,257,408	31	22.2	0.1
1/12/19 10:00	1/13/19 9:00	6,569,047	14	22.9	0.1
1/12/19 11:00	1/13/19 10:00	6,830,248	13	22.9	0.1
1/12/19 12:00	1/13/19 11:00	7,038,856	13	22.9	0.1
1/12/19 13:00	1/13/19 12:00	7,290,366	12	23.3	0.1
1/12/19 14:00	1/13/19 13:00	7,453,054	11	23.4	0.1
1/12/19 15:00	1/13/19 14:00	7,481,669	16	23.2	0.1
1/12/19 16:00	1/13/19 15:00	7,487,499	12	22.8	0.1
1/12/19 17:00	1/13/19 16:00	7,510,133	12	22.5	0.1
1/12/19 18:00	1/13/19 17:00	7,548,414	11	22.1	0.1
1/12/19 19:00	1/13/19 18:00	7,580,399	11	21.7	0.1
1/12/19 20:00	1/13/19 19:00	7,612,749	10	21.2	0.1
1/12/19 21:00	1/13/19 20:00	7,633,828	9	20.6	0.1
1/12/19 22:00	1/13/19 21:00	7,664,210	10	20.1	0.1
1/12/19 23:00	1/13/19 22:00	7,710,624	9	19.8	0.1
1/13/19 0:00	1/13/19 23:00	7,748,231	10	19.6	0.1
1/13/19 1:00	1/14/19 0:00	7,780,216	9	19.2	0.1
1/13/19 2:00	1/14/19 1:00	7,813,987	9	19.0	0.1
1/13/19 3:00	1/14/19 2:00	7,845,433	9	18.8	0.1
1/13/19 4:00	1/14/19 3:00	7,885,190	8	18.6	0.1
1/13/19 5:00	1/14/19 4:00	7,917,399	9	18.4	0.1
1/13/19 6:00	1/14/19 5:00	7,953,442	8	18.3	0.1
1/13/19 7:00	1/14/19 6:00	7,985,571	8	18.2	0.1
1/13/19 8:00	1/14/19 7:00	7,793,055	17	15.0	0.1
1/13/19 9:00	1/14/19 8:00	7,572,244	11	13.6	0.1

(8.)					
The measured or calculated cumulative quantity of gas discharged over the discharge duration.					
<i>Note: Measured sulfur concentrations are shown as flow-weighted averages if multiple measurement devices were used.</i>					
		(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
1/13/19 10:00	1/14/19 9:00	7,410,977	87	15.1	0.1
1/13/19 11:00	1/14/19 10:00	7,154,523	49	14.9	0.1
1/13/19 12:00	1/14/19 11:00	6,889,908	29	14.5	0.1
1/13/19 13:00	1/14/19 12:00	6,611,216	19	14.0	0.1
1/13/19 14:00	1/14/19 13:00	6,364,913	40	14.0	0.1
1/13/19 15:00	1/14/19 14:00	6,115,172	40	13.7	0.1
1/13/19 16:00	1/14/19 15:00	5,830,488	87	13.7	0.1
1/13/19 17:00	1/14/19 16:00	5,485,172	25	13.1	0.1
1/13/19 18:00	1/14/19 17:00	5,142,196	15	12.5	0.1
1/13/19 19:00	1/14/19 18:00	4,801,147	13	11.8	0.1
1/13/19 20:00	1/14/19 19:00	4,462,828	17	11.3	0.1
1/13/19 21:00	1/14/19 20:00	4,212,632	37	11.3	0.1
1/13/19 22:00	1/14/19 21:00	3,960,742	32	11.2	0.1
1/13/19 23:00	1/14/19 22:00	3,694,323	34	11.1	0.1
1/14/19 0:00	1/14/19 23:00	3,400,771	15	10.7	0.1
1/14/19 1:00	1/15/19 0:00	3,126,165	8	10.3	0.1
1/14/19 2:00	1/15/19 1:00	2,870,922	16	10.0	0.1
1/14/19 3:00	1/15/19 2:00	2,608,935	14	9.7	0.1
1/14/19 4:00	1/15/19 3:00	2,348,572	16	9.4	0.1
1/14/19 5:00	1/15/19 4:00	2,083,174	15	9.1	0.0
1/14/19 6:00	1/15/19 5:00	1,810,333	18	8.8	0.0
1/14/19 7:00	1/15/19 6:00	1,541,283	20	8.6	0.0
1/14/19 8:00	1/15/19 7:00	1,519,246	64	9.3	0.1
1/14/19 9:00	1/15/19 8:00	1,429,300	8	9.1	0.0
1/14/19 10:00	1/15/19 9:00	1,316,957	14	7.0	0.0
1/14/19 11:00	1/15/19 10:00	1,401,819	18	6.9	0.0
1/14/19 12:00	1/15/19 11:00	1,479,421	12	6.9	0.0
1/14/19 13:00	1/15/19 12:00	1,545,267	7	6.9	0.0
1/14/19 14:00	1/15/19 13:00	1,477,332	9	6.3	0.0
1/14/19 15:00	1/15/19 14:00	1,395,702	13	5.8	0.0
1/14/19 16:00	1/15/19 15:00	1,347,241	12	5.0	0.0
1/14/19 17:00	1/15/19 16:00	1,347,264	10	5.0	0.0
1/14/19 18:00	1/15/19 17:00	1,347,209	9	5.0	0.0
1/14/19 19:00	1/15/19 18:00	1,347,161	10	5.0	0.0
1/14/19 20:00	1/15/19 19:00	1,346,981	11	5.0	0.0

Subpart Ja Root Cause / Corrective Action AnalysisIncident 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)
 Emissions Source(s): North Flare (EPN 20-72, EQT 0035)

 Date of Event: 1/15/19
 Date Analysis Completed: N/A

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

A description of the Discharge:

This discharge resulted from the normal shutdown of the Naphtha Hydrotreater Unit for planned maintenance and included activities such as reactor cooldown, depressurization, and Nitrogen purging. The beginning of this discharge overlapped with the Middle Distillate Hydrotreater shutdown begun on 1/12/19.

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

 Date and Time the discharge was first identified 1/15/19 20:52
 Date/Time the discharge had ceased 1/17/19 15:06
 Duration of Discharge (Calculated) 42.2 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. Additional purges and Nitrogen volume was required to comply with the maintenance vent provisions of 40 CFR 63.643 as well as additional supplemental natural gas required to comply with the Net Heating Value of the Combustion Zone limit (> 270 Btu/scf) of 40 CFR 63.670, which will become effective on January 30, 2019.

(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>Yes</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>Yes</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)
 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 not
 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
1/14/19 20:00	1/15/19 19:00	1,346,981	11	5.0	0.0
1/14/19 21:00	1/15/19 20:00	1,276,374	199	4.7	0.0
1/14/19 22:00	1/15/19 21:00	1,232,705	284	6.4	0.0
1/14/19 23:00	1/15/19 22:00	1,156,477	128	6.2	0.0
1/15/19 0:00	1/15/19 23:00	1,133,779	323	7.8	0.0
1/15/19 1:00	1/16/19 0:00	1,123,999	205	9.7	0.1
1/15/19 2:00	1/16/19 1:00	1,099,667	157	11.2	0.1
1/15/19 3:00	1/16/19 2:00	1,096,494	123	12.6	0.1
1/15/19 4:00	1/16/19 3:00	1,111,172	104	14.1	0.1
1/15/19 5:00	1/16/19 4:00	1,155,772	86	15.6	0.1
1/15/19 6:00	1/16/19 5:00	1,272,437	63	17.4	0.1
1/15/19 7:00	1/16/19 6:00	1,381,450	85	19.6	0.1
1/15/19 8:00	1/16/19 7:00	1,466,106	66	20.6	0.1
1/15/19 9:00	1/16/19 8:00	1,644,540	63	22.5	0.1
1/15/19 10:00	1/16/19 9:00	1,798,693	54	24.2	0.1
1/15/19 11:00	1/16/19 10:00	1,899,616	44	25.5	0.1
1/15/19 12:00	1/16/19 11:00	1,984,876	51	27.1	0.1
1/15/19 13:00	1/16/19 12:00	2,051,580	60	28.8	0.2
1/15/19 14:00	1/16/19 13:00	2,216,816	60	30.7	0.2
1/15/19 15:00	1/16/19 14:00	2,398,650	61	32.5	0.2
1/15/19 16:00	1/16/19 15:00	2,579,941	57	34.3	0.2
1/15/19 17:00	1/16/19 16:00	2,758,322	57	36.0	0.2
1/15/19 18:00	1/16/19 17:00	2,937,335	58	37.7	0.2
1/15/19 19:00	1/16/19 18:00	3,116,402	59	39.5	0.2
1/15/19 20:00	1/16/19 19:00	3,237,575	886	57.8	0.3
1/15/19 21:00	1/16/19 20:00	3,379,161	104	60.1	0.3
1/15/19 22:00	1/16/19 21:00	3,496,993	68	59.8	0.3
1/15/19 23:00	1/16/19 22:00	3,684,078	58	61.5	0.3
1/16/19 0:00	1/16/19 23:00	3,870,174	49	61.5	0.3
1/16/19 1:00	1/17/19 0:00	4,025,494	48	61.2	0.3
1/16/19 2:00	1/17/19 1:00	4,178,063	44	61.0	0.3
1/16/19 3:00	1/17/19 2:00	4,319,514	44	61.0	0.3
1/16/19 4:00	1/17/19 3:00	4,442,741	40	60.8	0.3
1/16/19 5:00	1/17/19 4:00	4,542,146	43	60.6	0.3
1/16/19 6:00	1/17/19 5:00	4,576,314	42	60.2	0.3
1/16/19 7:00	1/17/19 6:00	4,600,222	69	60.0	0.3
1/16/19 8:00	1/17/19 7:00	4,515,082	93	59.4	0.3
1/16/19 9:00	1/17/19 8:00	4,543,855	48	59.2	0.3
1/16/19 10:00	1/17/19 9:00	4,410,550	42	57.9	0.3
1/16/19 11:00	1/17/19 10:00	4,226,351	103	57.2	0.3
1/16/19 12:00	1/17/19 11:00	4,071,931	124	56.7	0.3
1/16/19 13:00	1/17/19 12:00	3,943,336	118	56.0	0.3
1/16/19 14:00	1/17/19 13:00	3,760,717	54	54.2	0.3
1/16/19 15:00	1/17/19 14:00	3,613,314	38	52.5	0.3
1/16/19 16:00	1/17/19 15:00	3,434,522	40	50.8	0.3
1/16/19 17:00	1/17/19 16:00	3,255,928	23	49.2	0.3
1/16/19 18:00	1/17/19 17:00	3,076,845	18	47.4	0.3
1/16/19 19:00	1/17/19 18:00	2,897,704	16	45.7	0.2

(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
1/16/19 20:00	1/17/19 19:00	2,776,450	16	27.3	0.1
1/16/19 21:00	1/17/19 20:00	2,633,479	18	24.8	0.1
1/16/19 22:00	1/17/19 21:00	2,473,255	20	23.0	0.1
1/16/19 23:00	1/17/19 22:00	2,280,241	20	21.1	0.1
1/17/19 0:00	1/17/19 23:00	2,066,432	19	19.4	0.1
1/17/19 1:00	1/18/19 0:00	1,854,499	16	17.7	0.1
1/17/19 2:00	1/18/19 1:00	1,640,918	14	16.1	0.1
1/17/19 3:00	1/18/19 2:00	1,424,474	14	14.5	0.1
1/17/19 4:00	1/18/19 3:00	1,208,049	17	13.1	0.1
1/17/19 5:00	1/18/19 4:00	991,413	17	11.5	0.1
1/17/19 6:00	1/18/19 5:00	774,454	16	10.0	0.1
1/17/19 7:00	1/18/19 6:00	574,484	14	7.7	0.0
1/17/19 8:00	1/18/19 7:00	484,145	13	6.3	0.0

Subpart Ja Root Cause / Corrective Action AnalysisIncident 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)
 Emissions Source(s): South Flare (EPN 3-77, EQT 0049)

 Date of Event: 2/2/19
 Date Analysis Completed: N/A
(1.) (60.108a(c)(6)(i))**A description of the Discharge:***This discharge resulted from the normal start up of the Middle Distillate Hydrotreater Unit following planned maintenance and included activities such as compressor starting and Hydrogen system stabilizing.***(2.)** (60.108a(c)(6)(ii) and (60.108a(c)(6)(ix))
 Date and Time the discharge was first identified 2/2/19 7:46
 Date/Time the discharge had ceased 2/3/19 6:31
 Duration of Discharge (Calculated) 22.7 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. Additional purges and Nitrogen volume was required to comply with the maintenance vent provisions of 40 CFR 63.643 as well as additional supplemental natural gas required to comply with the Net Heating Value of the Combustion Zone limit (> 270 Btu/scf) of 40 CFR 63.670, that became effective on January 30, 2019.***(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 not**
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
2/1/19 7:00	2/2/19 6:00	2,824	8	0.2	0.0
2/1/19 8:00	2/2/19 7:00	6,261	16	0.2	0.0
2/1/19 9:00	2/2/19 8:00	90,542	43	0.8	0.0
2/1/19 10:00	2/2/19 9:00	130,489	29	1.0	0.0
2/1/19 11:00	2/2/19 10:00	161,182	24	1.1	0.0
2/1/19 12:00	2/2/19 11:00	188,331	23	1.3	0.0
2/1/19 13:00	2/2/19 12:00	212,741	23	1.4	0.0
2/1/19 14:00	2/2/19 13:00	227,274	26	1.4	0.0
2/1/19 15:00	2/2/19 14:00	227,300	3	1.4	0.0
2/1/19 16:00	2/2/19 15:00	227,309	3	1.4	0.0
2/1/19 17:00	2/2/19 16:00	227,311	6	1.4	0.0
2/1/19 18:00	2/2/19 17:00	227,334	7	1.4	0.0
2/1/19 19:00	2/2/19 18:00	227,378	7	1.4	0.0
2/1/19 20:00	2/2/19 19:00	227,408	6	1.4	0.0
2/1/19 21:00	2/2/19 20:00	227,450	5	1.4	0.0
2/1/19 22:00	2/2/19 21:00	227,430	4	1.4	0.0
2/1/19 23:00	2/2/19 22:00	227,434	5	1.4	0.0
2/2/19 0:00	2/2/19 23:00	227,434	6	1.4	0.0
2/2/19 1:00	2/3/19 0:00	227,431	6	1.4	0.0
2/2/19 2:00	2/3/19 1:00	245,076	38	1.5	0.0
2/2/19 3:00	2/3/19 2:00	319,569	21	1.8	0.0
2/2/19 4:00	2/3/19 3:00	377,557	19	2.0	0.0
2/2/19 5:00	2/3/19 4:00	447,146	19	2.2	0.0
2/2/19 6:00	2/3/19 5:00	491,736	16	2.4	0.0
2/2/19 7:00	2/3/19 6:00	513,128	17	2.4	0.0
2/2/19 8:00	2/3/19 7:00	509,656	3	2.4	0.0
2/2/19 9:00	2/3/19 8:00	425,317	5	1.8	0.0