VALERO

October 30, 2017

CERTIFIED: 7013 2250 0001 1902 6052

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 – 3rd Quarter 2017
Valero Refining - Meraux LLC, Agency Interest # 1238
2500 East St. Bernard Hwy., St. Bernard Parish, Meraux, LA
Title V Permit Numbers: 2500-00001-V16

Gentlemen,

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

For this reporting period, no CEMS had excess emissions greater than 1 % of the total operating time and no CEMS had downtime greater than 5 % of the total operating time.

Valero installed new SO_2/O_2 CEMS on #3 Sulfur Recovery Unit Incinerator (EPN 5-00, EQT 0079). A temporary SO_2/O_2 CEMS was installed to prevent monitoring downtime during the transition. The new SO2/O2 CEMS began operation on 7/18/17 and was certified on 8/17/17. There were no changes to the any of the other CEMS covered by this report in the 3rd Quarter 2017.

Enclosed are the Data Assessment Reports for the appropriate CEMs and information required by NSPS Subpart Ja, 40 CFR 60.108a(d). Subpart Ja root cause and corrective action analysis reports are included with this submittal. Updates to previously submitted Subpart Ja root cause and corrective action analysis reports are also included if corrective actions were completed in this reporting period.

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

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

Regards,

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

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

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

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

Pollutant: **SO_2**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: SO_2 corrected to 0% O_2 shall not exceed 250 ppm on a 12-hour rolling average

Monitor Manufacturer and Model No.: Brimstone SGX-231(SO_2)/Rosemount Oxymitter 4000(O_2)

Date of Latest CMS Certification or Audit: CGA on 7/10/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	28
d. Other known causes	2
e. Unknown causes	0
2. Total CMS Downtime	30
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	1.4 %

[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: **SO_2**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: SO_2 corrected to 0% O_2 shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991-CEM-X(SO_2)/ Rosemount Oxymitter 4000(O_2) 7/1/17, 00:00-7/10/17, 10:00
Temporary ABB AO2000 Uras 26(SO_2)/ Magnos 206 (O_2) 7/10/17, 10:00-7/18/17, 14:00
Permanent ABB AO2000 Uras 26(SO_2)/ Magnos 206 (O_2) 7/18/17, 14:00-10/1/17, 00:00

Date of Latest CMS Certification or Audit: RATA on 8/17/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	4
d. Other known causes	11
e. Unknown causes	0
2. Total CMS Downtime	15
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	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))

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek, #4661

Date of Latest CMS Certification or Audit: CGA on 7/14/17

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

Total source operating time in reporting period: EQT 0010- 2,208 hours, EQT 0011- 2,208 hours, EQT 0033-2,198 hours

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

CMS Performance Summary[1]			
1. CMS downtime in reporting period due to:	*EQT 0010 (hours)*	*EQT 0011 (hours)*	*EQT 0033 (hours)*
a. Monitor equipment malfunctions	0	0	0
b. Non-Monitor equipment malfunctions	0	0	0
c. Quality assurance calibration	11	11	2
d. Other known causes	0	0	0
e. Unknown causes	0	0	0
2. Total CMS Downtime	11	11	2
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.5 %	0.5 %	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. (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: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: CGA on 7/21/17

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

Total source operating time in reporting period: EQT 0013-2,201 hours; EQT 0022-2,203 hours; EQT 0023-2,202 hours; EQT 0024-2,189 hours; EQT 0027-2,194 hours; EQT 0028-2,205 hours; EQT 0029-2,182 hours; EQT 0058 – 2,187 hours; EQT 0014 - 2,208 hours

Emissions Data Summary[1]		
1. Duration of excess emissions in reporting period due to:	*EQT 0014 and 0028 (hours)*	*All Other EQT's (hours)*
a. Startup/shutdown	0	0
b. Control equipment problems	0	0
c. Process problems	3	0
d. Other known causes	0	0
e. Unknown causes	0	0
2. Total duration of excess emission	3	0
3. Total duration of excess emissions x (100) [Total source operating time][2]	0.1 %	0.0 %

CMS Performance Summary[1]	
1. CMS downtime in reporting period due to:	*All EQT's (hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	2
d. Other known causes	4
e. Unknown causes	0
2. Total CMS Downtime	6
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.3 %

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

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

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

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

Pollutant: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: CGA on 7/21/17

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

Total source operating time in reporting period: 2,168 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	2
d. Other known causes	4
e. Unknown causes	0
2. Total CMS Downtime	6
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.3 %

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

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

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

(per 40 CFR 60.7(d))

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: CGA on 7/21/17

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

Total source operating time in reporting period: 2,182 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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]	0.1 %

[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))

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: CGA on 7/14/17

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

Total source operating time in reporting period: 2,203 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	3
e. Unknown causes	0
2. Total CMS Downtime	4
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))

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: CGA on 7/18/17

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

Total source operating time in reporting period: EQT 0030-1,678 hours; EQT 0048-216 hours

Emissions Data Summary[1]		
1. Duration of excess emissions in reporting period due to:	*EQT 0030 (hours)*	*EQT 0048 (hours)*
a. Startup/shutdown	0	0
b. Control equipment problems	0	0
c. Process problems	3	0
d. Other known causes	0	0
e. Unknown causes	0	0
2. Total duration of excess emission	3	0
3. Total duration of excess emissions x (100) [Total source operating time][2]	0.1 %	0.0 %

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

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

(per 40 CFR 60.7(d))

Polluant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O_2)

Date of Latest CMS Certification or Audit: CGA on 7/19/17

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

Total source operating time in reporting period: 1,685 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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]	0.1 %

[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))

Polluant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O_2)

Date of Latest CMS Certification or Audit: CGA on 7/20/17

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

Total source operating time in reporting period: 2,090 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	1
e. Unknown causes	0
2. Total CMS Downtime	2
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.1%

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

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

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

(per 40 CFR 60.7(d))

Polluant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Thermo Environmental 42i (NOx)/(O_2)

Date of Latest CMS Certification or Audit: CGA on 7/17/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	4
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	4
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))

Polluant: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: Nitrogen Oxide corrected to 0% O_2 shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental 42i (NOx)/(O_2)

Date of Latest CMS Certification or Audit: CGA on 7/13/17

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

Total source operating time in reporting period: 2,168 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	1
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.0 %

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

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

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

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

Pollutant: **NO_x**

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

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O_2)

Date of Latest CMS Certification or Audit: CGA on 7/21/17

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

Total source operating time in reporting period: 2,203 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	27
d. Other known causes	4
e. Unknown causes	0
2. Total CMS Downtime	31
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	1.4 %

[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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: CGA on 7/10/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	3
d. Other known causes	29
e. Unknown causes	0
2. Total CMS Downtime	32
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	1.4 %

[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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	3
d. Other known causes	5
e. Unknown causes	0
2. Total CMS Downtime	8
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.4 %

[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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	11
d. Other known causes	15
e. Unknown causes	0
2. Total CMS Downtime	26
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	1.2 %

[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: **Flow**

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

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

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

Total source operating time in reporting period: 2,208 hours

Emissions Data Summary[1]	
1. Duration of excess emissions in reporting period due to:	*(hours)*
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 Summary[1]	
1. CMS downtime in reporting period due to:	*(hours)*
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total duration of CMS Downtime x (100) [Total source operating time][2]	0.0 %

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

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

GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE

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

Pollutant: **SO_2**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: SO_2 corrected to 0% O_2 shall not exceed 250 ppm on a 12-hour rolling average

Monitor Manufacturer and Model No.: Brimstone SGX-231(SO_2)/Rosemount Oxymitter 4000(O_2)

Date of Latest CMS Certification or Audit: CGA on 7/10/17

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

Total source operating time in reporting period: 2,208 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
7/10/17	13:00	15:00	2	SO_2 and O_2 Cylinder Gas Audits.	N/A
7/24/17	07:00		26	Out of Control.	See Data Assessment Report for the #2 SRU SO_2/O_2 (Page 36)
7/25/17		09:00			
7/25/17	10:00	12:00	2	Offline to replace SO_2 Lamp.	Calibrated and returned to service.
TOTAL			28		

[1]In 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: **SO_2**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: SO_2 corrected to 0% O_2 shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991-CEM-X(SO_2)/ Rosemount Oxymitter 4000(O_2) 7/01/17, 00:00-7/10/17, 10:00
Temporary ABB AO2000 Uras 26(SO_2)/ Magnos 206 (O_2) 7/10/17, 10:00-7/18/17, 14:00
Permanent ABB AO2000 Uras 26(SO_2)/ Magnos 206 (O_2) 7/18/17, 14:00-10/1/17, 00:00

Date of Latest CMS Certification or Audit: RATA on 8/17/17

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

Total source operating time in reporting period: 2,208 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
7/3/17	07:00	08:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
7/5/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
7/19/17	09:00	10:00	1	SO_2 and O2 Cylinder Gas Audit.	N/A
8/8/17	07:00	08:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
8/13/17	07:00	11:00	4	Analyzer shutdown due to water in instrument air lines.	Blew down instrument air lines and changed filters. Calibrated and returned to service.
8/27/17	07:00	14:00	7	Analyzer failed to return to sample after satisfactory daily calibration check due to water in instrument air lines.	Blew down instrument air lines, changed filters, and adjusted operation of refinery instrument air dryers. Calibrated and returned to service.
TOTAL			15		

[1]In 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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

Date of Latest CMS Certification or Audit: CGA on 7/21/17

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

Total source operating time in reporting period: 2,168 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
7/5/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
7/21/17	10:00	11:00	1	Cylinder Gas Audit.	N/A
9/27/17	13:00	17:00	4	Analyzer offline for annual inspection and preventative maintenance.	Calibrated and returned to service.
TOTAL			6		

[1]In 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))

Polluant: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: Nitrogen Oxide corrected to 0% O_2 shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental 42i $(NOx)/(O_2)$

Date of Latest CMS Certification or Audit: CGA on 7/13/17

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

Total source operating time in reporting period: 2,168 hours

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

Ja CMS PERFORMANCE[1]					
Date	Start	End	Duration (hours)	Cause	Corrective Action
7/13/17	08:00	09:00	1	NOx and O_2 Cylinder Gas Audit	N/A
TOTAL			1		

[1] In 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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 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
7/12/17	08:00	09:00	1	Cylinder Gas Audit	N/A
TOTAL			1		

[1]Due to the physical arrangement of the headers supplying the North Flare Stack (EPN 20-72, EQT 0035), two analyzers are required to measure H_2S 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.

[2]In 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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: CGA on 7/10/17

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

Total source operating time in reporting period: 2,208 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
7/10/17	10:00	11:00	1	Cylinder Gas Audit	N/A
TOTAL			1		

[1]Due to the physical arrangement of the headers supplying the North Flare Stack (EPN 20-72, EQT 0035), two analyzers are required to measure H_2S 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.

[2] In 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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 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
7/10/17	10:00	11:00	1	Cylinder Gas Audit	N/A
TOTAL			1		

[1] In 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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Ja CMS PERFORMANCE[1]					
Date	Start	End	Duration (hours)	Cause	Corrective Action
7/3/17	10:00	11:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
7/12/17	13:00	14:00	1	Relative Accuracy Test Assessment.	N/A
8/5/17	13:00	17:00	4	Analyzer taken off sample and placed on zero air while replacing the 10 port valve rotor on the South Flare Header analyzer.	Calibrated and returned to service.
8/9/17	05:00	09:00	4	Analyzer shutdown during a brief power failure	Calibrated and returned to service.
8/12/17	17:00		21	Analyzer shutdown due to water in instrument air lines.	Blew down instrument air lines and changed filters. Calibrated and returned to service.
8/13/17		14:00			
9/25/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			32		

[1] In 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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Ja CMS PERFORMANCE[1]					
Date	Start	End	Duration (hours)	Cause	Corrective Action
7/3/17	10:00	11:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
7/12/17	13:00	14:00	1	Cylinder Gas Audit	N/A
8/5/17	13:00	17:00	4	Analyzer taken off sample and placed on zero air while replacing the 10 port valve rotor on the South Flare Header analyzer.	Calibrated and returned to service.
8/12/17	15:00	16:00	1	Analyzer offline to remove water from the instrument air lines.	Blew down instrument air lines and changed filters. Calibrated and returned to service.
9/25/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			8		

[1] In 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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

Date of Latest CMS Certification or Audit: CGA on 7/12/17

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

Total source operating time in reporting period: 2,208 hours

Ja CMS PERFORMANCE[1]					
Date	Start	End	Duration (hours)	Cause	Corrective Action
7/3/17	10:00	11:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
7/12/17	13:00	14:00	1	Cylinder Gas Audit	N/A
8/1/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
8/2/17	08:00	11:00	3	Analyzer offline to clean out sample system.	Blew out sample lines, adjusted pressure regulators. Calibrated and returned to service.
8/5/17	13:00	17:00	4	Analyzer offline while replacing the 10 port valve rotor.	Calibrated and returned to service.
8/12/17	11:00	12:00	1	Analyzer offline to remove water from the instrument air lines.	Blew down instrument air lines and changed filters. Calibrated and returned to service.
8/13/17	13:00	14:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
8/15/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
8/25/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
8/27/17	07:00	15:00	8	Analyzer shutdown to disassemble and clean SO_2 detection section.	Calibrated and returned to service.
9/2/17	13:00	14:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
9/4/17	08:00	09:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
9/4/17	13:00	14:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
9/29/17	10:00	11:00	1	Adjusted for calibration drift.	Calibrated and returned to service.
TOTAL			26		

[1] In 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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

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

Total source operating time in reporting period: 2,208 hours

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

[1] In 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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

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

Total source operating time in reporting period: 2,208 hours

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

[1] In 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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: GE Panametrics GF 868

Date of Latest CMS Certification or Audit: N/A

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

Total source operating time in reporting period: 2,208 hours

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

[1] In 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: **SO_2**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: SO_2 corrected to 0% O_2 shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone SGX-231(SO_2)/Rosemount Oxymitter 4000(O_2)

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 (low scale)	SO_2 #2 (high scale)	O_2 #1 (low scale)	O_2 #2 (high scale)
Date of Audit	7/10/17	7/10/17	7/10/17	7/10/17
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	123.0 ppmv	273.3 ppmv	6.17 vol %	10.10 vol %
Accuracy	1.5%	0.4%	3.0%	0.5%
Standard	<15%	<15%	<15%	<15%

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: 7/24/17, 07:00 – 7/25/17, 09:00

2. Number of Days 1.1 (26 hours)

B. Corrective Actions: On 7/25/17, the SO_2 span was > 4 times the allowable limit below the reference gas value and the O_2 zero was >4 times above the reference gas value due to plugging of the sample system. Valero cleaned and unplugged the sample line, filter, and probe and cleaned the sample cell. The SO_2 lamp also showed signs of nearing end of life and was replaced later the same day.

DATA ASSESSMENT REPORT

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

Pollutant: **SO_2**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: SO_2 corrected to 0% O_2 shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991-CEM-X(SO_2)/ Rosemount Oxymitter 4000(O_2) 7/1/17, 00:00-7/10/17, 10:00
Temporary ABB AO2000 Uras 26(SO_2)/ Magnos 206 (O_2) 7/10/17, 10:00-7/18/17, 14:00
Permanent ABB AO2000 Uras 26(SO_2)/ Magnos 206 (O_2) 7/18/17, 14:00-10/1/17, 00:00

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

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

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

I. ACCURACY ASSESSMENT RESULTS (RATA):

SO_2 corrected to 0% O_2	
Date of Audit	8/17/17
Reference Method	EPA Method 6C/ EPA Method 3A
Average RM Value (ppmv)	110.90
Average CEM Value (ppmv)	103.61
Accuracy	3.44 %
Limit	< 100%

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: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

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

CEM Sampling Location: Area 1 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/14/17	7/14/17
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)	75.7	177.3
Accuracy	0.4%	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: **H_2S**

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

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

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

CEM Sampling Location: Area 2 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/21/17	7/21/17
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)	80.7	184.0
Accuracy	5.3%	4.3%
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)

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

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

CEM Sampling Location: Area 4 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/21/17	7/21/17
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)	77.0	167.0
Accuracy	1.3%	1.7%
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)

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

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

CEM Sampling Location: Area 6 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/14/17	7/14/17
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)	78.5	167.7
Accuracy	0.1%	0.6%
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)

Polluant: **H_2S**

Applicable NSPS Subpart: J

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 4661

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

CEM Sampling Location: Area 6 Fuel Drum

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/18/17	7/18/17
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)	75.0	156.7
Accuracy	4.0%	8.6%
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)

Polluant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O_2)

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):

	NOx #1 (low scale)	NOx #2 (high scale)	O_2 #1 (low scale)	O_2 #2 (high scale)
Date of Audit	7/19/17	7/19/17	7/19/17	7/19/17
Audit Gas Cylinder No.	LL165998	LL64747	LL53418	LL167062
Date of Audit Gas Cert.	2/4/15	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	24.7 ppmv	54.5 ppmv	6.01 vol %	10.01 vol %
CEM Response Value	23.9 ppmv	52.5 ppmv	5.86 vol %	9.87 vol %
Accuracy	3.2%	3.6%	2.5%	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)

Polluant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: ABB Limas11(NOx), Magnos27 (O_2)

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):

	NOx #1 (low scale)	NOx #2 (high scale)	O_2 #1 (low scale)	O_2 #2 (high scale)
Date of Audit	7/20/17	7/20/17	7/20/17	7/20/17
Audit Gas Cylinder No.	LL165998	LL64747	LL53418	LL167062
Date of Audit Gas Cert.	2/4/15	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	24.7 ppmv	54.5 ppmv	6.01 vol %	10.01 vol %
CEM Response Value	25.6 ppmv	54.8 ppmv	5.91 vol %	9.93 vol %
Accuracy	3.7%	0.6%	1.7%	0.8%
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)

Polluant: **NO_x**

Applicable NSPS Subpart: Db

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Thermo Environmental Model 42i (NOx)/(O_2)

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):

	NOx #1 (low scale)	NOx #2 (high scale)	O_2 #1 (low scale)	O_2 #2 (high scale)
Date of Audit	7/17/17	7/17/17	7/17/17	7/17/17
Audit Gas Cylinder No.	SG9167966	CC89303	LL269	LL168197
Date of Audit Gas Cert.	5/31/16	2/11/14	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	124.6 ppmv	261.0 ppmv	5.60 vol %	9.50 vol %
Accuracy	1.8%	3.5%	7.1%	5.9%
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)

Polluant: **NO_x**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: Nitrogen Oxide corrected to 0% O_2 shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental Model 42i (NOx)/(O_2)

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):

CGA	NOx #1 (low scale)	NOx #2 (high scale)	O_2 #1 (low scale)	O_2 #2 (high scale)
Date of Audit	7/13/17	7/13/17	7/13/17	7/13/17
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	25.2 ppmv	55.4 ppmv	5.67 vol %	9.60 vol %
Accuracy	0.9%	0.7%	4.9%	3.4%
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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: Nitrogen Oxide corrected to 0% O_2 shall not exceed 40 ppm on a 30-day rolling average

Monitor Manufacturer and Model No.: Thermo Environmental Model 42i (NOx)/(O_2)

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):

CGA	NOx #1 (low scale)	NOx #2 (high scale)	O_2 #1 (low scale)	O_2 #2 (high scale)
Date of Audit	7/21/17	7/21/17	7/21/17	7/21/17
Audit Gas Cylinder No.	LL178685	CC319153	CC483658	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	26.0 ppmv	58.6 ppmv	6.02 vol %	10.03 vol %
Accuracy	5.3%	5.7%	0.4%	0.7%
Standard	<15%	<15%	<15%	<15%

II. CALIBRATION DRIFT ASSESSMENT

A. Out of Control Periods:

1. Dates: 7/10/17, 07:00 – 7/11/17, 09:00

2. Number of Days 1.1 (26 hours)

B. Corrective Actions: On 7/11/17, the NOx span was > 4 times the allowable limit below the reference gas value. Valero inspected the analyzer and no cause could be determined other than calibration drift over time. Valero recalibrated the analyzer and returned it to service.

DATA ASSESSMENT REPORT

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

Pollutant: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

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

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

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/12/17	7/12/17
Audit Gas Cylinder No.	CC441826	CC288207
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	79.1 ppmv	177.3 ppmv
CEM Response Value	79.7 ppmv	178.0 ppmv
Accuracy	0.8%	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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

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

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

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/12/17	7/12/17
Audit Gas Cylinder No.	CC416820	CC407913
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	81.5 ppmv	175.6 ppmv
CEM Response Value (ppmv)	76.0 ppmv	172.0 ppmv
Accuracy	6.8%	2.1%
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: **H_2S**

Applicable NSPS Subpart: Ja

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

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

Monitor Manufacturer and Model No.: Ametek 5100

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

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

CEM Span Value: Hydrogen Sulfide, 300 ppm

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	7/12/17	7/12/17
Audit Gas Cylinder No.	CC416820	CC407913
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	81.5 ppmv	175.6 ppmv
CEM Response Value	77.3 ppmv	172.0 ppmv
Accuracy	5.2%	2.1%
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: **Total Sulfur**

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

Reporting period dates: From 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

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

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

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

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	3/20/17	3/20/17
Audit Gas Cylinder No.	CC441826	CC288207
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	79.1 ppmv	177.3 ppmv
CEM Response Value (ppmv)	77.3 ppmv	177.7 ppmv
Accuracy	2.3%	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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

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

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

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

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	3/20/17	3/20/17
Audit Gas Cylinder No.	CC441826	CC288207
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value (ppmv)	79.1 ppmv	177.3 ppmv
CEM Response Value (ppmv)	77.3 ppmv	177.7 ppmv
Accuracy	2.3%	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 7/1/17 to 9/30/17

Date submitted: 10/30/17

Company: Valero Refining - Meraux LLC

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

Emission Limitation: None

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II

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

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

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

I. ACCURACY ASSESSMENT RESULTS (CGA):

	H_2S #1 (low scale)	H_2S #2 (high scale)
Date of Audit	3/20/17	3/20/17
Audit Gas Cylinder No.	CC441826	CC288207
Date of Audit Gas Cert.	10/3/16	10/4/16
Type of Certification	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	79.1 ppmv	177.3 ppmv
CEM Response Value	71.0 ppmv	171.0 ppmv
Accuracy	10.2%	3.6%
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: 172271 / 172270

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 and SO2), #3 SRU (SO2)**	Date of Event:	**8/27/16**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**9/22/16**
	#3 SRU Incinerator (EPN 5-00, EQT 0079)		

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

A description of the Discharge:

At approximately 15:00 on 8/27/16, the Distributed Control System (DCS) for the #3 SRU complex lost power and caused an automatic shutdown of the #3 SRU. Excess emissions occurred at the #2 SRU, the #3 SRU, the North Flare, and multiple heaters and boilers. The #2 SRU lost the #2 TGT from the resulting process swing, but emissions from the #2 SRU were less than 500 lbs/24 hours above the allowable limit. The #3 SRU had SO2 emissions >500 lbs/24 hours while restarting the unit which was delayed due to fouled inlet screen on a plate and frame heat exchanger in the #2 Amine Unit. The heaters and boilers were combusting fuel gas with elevated levels of H2S due to the loss of the #3 SRU complex, but no Ja heater had SO2 emissions >500 lbs/24 hours. Additionally, the Rich Amine Flash Drum on the Hydrocracker Unit over-pressured and lifted the PSV to the North Flare. This resulted in SO2 emissions from flaring to exceed 500 lbs in a 24 hour period and flow greater than 500,000 scf above baseline in a 24 hour period.

Valero personnel were working in the rear of the DCS power cabinet and taking measurements on the #3 SRU DCS at the time as part of the installation of a new DCS system.

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

	North Flare	#3 SRU	
Date and Time the discharge was first identified	**8/27/16 15:06**	**8/27/16 18:11**	
Date/Time the discharge had ceased	**8/28/16 12:10**	**8/28/16 8:15**	
Duration of Discharge (Calculated)	**21.1**	**14.1**	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 of this discharge. Once Valero identified the Rich Amine Flash Drum as the source of the flare SO2 emissions, the Drum was manually isolated.

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

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

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

Did the discharge result from a planned startup or shutdown?	**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)

1) Improper installation of the original DCS system. A loose wire termination caused the loss of power when personnel were working in the rear of the DCS power cabinet. (The equipment involved in this incident will be replaced with the new DCS system.)

Contributing Factors

1) The level control valve between the Recycle Gas Scrubber and the Rich Amine Flash Drum did not seal completely and allowed rich amine to leak out of the Recycle Gas Scrubber and overpressure the Rich Amine Flash Drum.

2) The recovery of the #3 SRU was delayed due to a fouled inlet screen on a plate and frame heat exchanger in the #2 Amine Unit.

(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) Verify that the redundant power supply has been properly installed on the remaining original DCS equipment.

2) Develop a Hydrocracker Unit Loss of Amine procedure to include manually isolating the Rich Amine Flash Drum from Recycle Gas Scrubber.

3) Evaluate installing differential pressure monitoring to indicate fouling of the inlet screen to the plate exchanger.

(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) Verify that the redundant power supply has been properly installed on the remaining original DCS equipment.
Commencement Date: 9/22/16
Completed: 10/24/16

2) Develop a Hydrocracker Unit Loss of Amine procedure to include manually isolating the Rich Amine Flash Drum from Recycle Gas Scrubber.
Commencement Date: 9/22/16
Completed: 11/1/16

3) Evaluate installing differential pressure monitoring to indicate fouling of the inlet screen to the plate exchanger.
Commencement Date: 9/22/16
Completed: 3/16/17
Valero determined that installation of differential pressure monitoring to indicate fouling was required. A new action item was created for the installation of this differential pressure monitoring.

4) Complete installation of differential pressure monitoring of the inlet screens to both plate exchangers.
Commencement Date: 3/16/17
Completed: 9/14/17

(8.) North Flare

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

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

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	**Last hour of 24-hr Period**	**24-hr cumulative volume of flared gas above Baseline**	**TRS or H2S ppm (24-hr average, flow-weighted)**	**24-hr cumulative SO2**	**24-hr cumulative reduced sulfur**
		SCF	ppmv	lbs	lbs as H2S
8/26/2016 15:00	8/27/2016 14:00	0	0	0	0
8/26/2016 16:00	8/27/2016 15:00	828,035	639	2090.4	11.2
8/26/2016 17:00	8/27/2016 16:00	1,758,230	1559	5473.0	29.4
8/26/2016 18:00	8/27/2016 17:00	2,778,600	2389	8820.4	47.4
8/26/2016 19:00	8/27/2016 18:00	3,751,297	3180	11864.7	63.8
8/26/2016 20:00	8/27/2016 19:00	4,680,576	3971	14768.6	79.4
8/26/2016 21:00	8/27/2016 20:00	4,910,444	5043	15742.3	84.6
8/26/2016 22:00	8/27/2016 21:00	4,910,444	5043	15742.3	84.6
8/26/2016 23:00	8/27/2016 22:00	4,946,570	5466	15802.8	84.9
8/27/2016 0:00	8/27/2016 23:00	5,001,886	7557	16260.0	87.4
8/27/2016 1:00	8/28/2016 0:00	5,001,886	7557	16260.0	87.4
8/27/2016 2:00	8/28/2016 1:00	5,001,886	7557	16260.0	87.4
8/27/2016 3:00	8/28/2016 2:00	5,001,886	7557	16260.0	87.4
8/27/2016 4:00	8/28/2016 3:00	5,001,886	7557	16260.0	87.4
8/27/2016 5:00	8/28/2016 4:00	5,001,886	7557	16260.0	87.4
8/27/2016 6:00	8/28/2016 5:00	5,001,886	7557	16260.0	87.4
8/27/2016 7:00	8/28/2016 6:00	5,001,886	7557	16260.0	87.4
8/27/2016 8:00	8/28/2016 7:00	5,001,886	7557	16260.0	87.4
8/27/2016 9:00	8/28/2016 8:00	5,001,886	7557	16260.0	87.4

(8.) North Flare

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

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

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	**Last hour of 24-hr Period**	**24-hr cumulative volume of flared gas above Baseline**	**TRS or H2S ppm (24-hr average, flow-weighted)**	**24-hr cumulative SO2**	**24-hr cumulative reduced sulfur**
		SCF	ppmv	lbs	lbs as H2S
8/27/2016 10:00	8/28/2016 9:00	5,001,886	7557	16260.0	87.4
8/27/2016 11:00	8/28/2016 10:00	5,001,886	7557	16260.0	87.4
8/27/2016 12:00	8/28/2016 11:00	5,001,886	7557	16260.0	87.4
8/27/2016 13:00	8/28/2016 12:00	5,001,886	7557	16260.0	87.4
8/27/2016 14:00	8/28/2016 13:00	5,001,886	7557	16260.0	87.4
8/27/2016 15:00	8/28/2016 14:00	5,001,886	7557	16260.0	87.4
8/27/2016 16:00	8/28/2016 15:00	4,173,851	6918	14169.6	76.1
8/27/2016 17:00	8/28/2016 16:00	3,243,656	5998	10787.0	58.0
8/27/2016 18:00	8/28/2016 17:00	2,223,286	5168	7439.6	40.0
8/27/2016 19:00	8/28/2016 18:00	1,250,589	4377	4395.3	23.6
8/27/2016 20:00	8/28/2016 19:00	321,311	3586	1491.3	8.0
8/27/2016 21:00	8/28/2016 20:00	91,442	2514	517.6	2.8
8/27/2016 22:00	8/28/2016 21:00	91,442	2514	517.6	2.8
8/27/2016 23:00	8/28/2016 22:00	55,316	2091	457.1	2.5
8/28/2016 0:00	8/28/2016 23:00	0	0	0.0	0.0

(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
8/26/2016 18:00	8/27/2016 17:00	27,255,334	29	113.4	0.6
8/26/2016 19:00	8/27/2016 18:00	27,260,948	58	235.1	1.3
8/26/2016 20:00	8/27/2016 19:00	26,468,252	104	290.9	1.6
8/26/2016 21:00	8/27/2016 20:00	25,576,964	149	320.7	1.7
8/26/2016 22:00	8/27/2016 21:00	24,682,472	195	348.1	1.9
8/26/2016 23:00	8/27/2016 22:00	23,889,098	218	365.6	2.0
8/27/2016 0:00	8/27/2016 23:00	23,146,658	223	368.3	2.0
8/27/2016 1:00	8/28/2016 0:00	22,321,852	227	368.5	2.0
8/27/2016 2:00	8/28/2016 1:00	21,497,238	231	368.1	2.0
8/27/2016 3:00	8/28/2016 2:00	20,635,496	234	366.4	2.0
8/27/2016 4:00	8/28/2016 3:00	19,874,234	238	366.6	2.0
8/27/2016 5:00	8/28/2016 4:00	19,145,942	241	367.6	2.0
8/27/2016 6:00	8/28/2016 5:00	18,874,473	277	461.5	2.5
8/27/2016 7:00	8/28/2016 6:00	18,945,257	315	621.5	3.3
8/27/2016 8:00	8/28/2016 7:00	18,792,136	345	729.1	3.9
8/27/2016 9:00	8/28/2016 8:00	18,463,081	352	747.4	4.0
8/27/2016 10:00	8/28/2016 9:00	18,096,094	355	753.3	4.0
8/27/2016 11:00	8/28/2016 10:00	17,775,016	358	759.7	4.1
8/27/2016 12:00	8/28/2016 11:00	17,518,615	359	760.5	4.1
8/27/2016 13:00	8/28/2016 12:00	17,345,541	360	762.1	4.1
8/27/2016 14:00	8/28/2016 13:00	17,247,716	361	765.1	4.1
8/27/2016 15:00	8/28/2016 14:00	17,210,286	362	769.1	4.1
8/27/2016 16:00	8/28/2016 15:00	17,014,029	364	778.2	4.2
8/27/2016 17:00	8/28/2016 16:00	16,457,597	366	787.1	4.2
8/27/2016 18:00	8/28/2016 17:00	15,702,164	369	795.5	4.3
8/27/2016 19:00	8/28/2016 18:00	15,646,501	340	676.3	3.6

[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

Impact Incident Number: **175687**

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)**	Date of Event:	**11/17/17**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**12/14/16**

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

A description of the Discharge:

On 11/17/16, at approximately 02:36, the Hydrocracker (HC) Recycle Gas Compressor tripped offline on high seal gas pressure. This initiated an emergency shutdown of the HC and a high rate depressurization to the North Flare, which exceeded the 500,000 SCF/24 hrs and 500 lbs SO2/24 hrs.

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

Date and Time the discharge was first identified	**11/17/16 2:50**	
Date/Time the discharge had ceased	**11/17/16 4:17**	
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.

(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? **Yes** (Yes/No)

Liquids (oil) in the dry gas seal system caused the high pressure that tripped the Recycle Gas Compressor. The 3rd stage of the Make Up Gas Compressors supply H2 to the Recycle Gas Compressor seal gas system. Oil is entrained in this gas and is normally removed by a series of 3 sets of filters with drains before it reaches the Recycle Gas Compressor. Prior to this incident, Valero normally operated with the drains open on all 3 sets of filters. For this incident, the drains on the filters were not open. A newly installed configuration on the last set of filters was supposed to detect oil level and alarm on high oil levels, but did not function properly.

(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) Add to the shift operator rounds to verify that the drains are open on all three sets of filters that supply gas to the Recycle Gas Compressor dry seal.

2) Update Recycle Gas Compressor start-up procedure to include opening the drain valves on these filters.

3) Evaluate supplying dry gas from the discharge of the Recycle Gas Compressor rather than the Make Up Gas Compressor.

4) Install low point drain on the Make Up Gas Compressors 3rd stage discharge bottles to allow them to be drained routinely.

5) Evaluate installing cyclone filter ahead of the 1st set of filters.

(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) Add to the shift operator rounds to verify that the drains are open on all three sets of filters that supply gas to the Recycle Gas Compressor dry seal.
Commencement Date: 12/14/16
Completed: 12/16/16

2) Update Recycle Gas Compressor start-up procedure to include opening the drain valves on these filters.
Commencement Date: 12/14/16
Completed: 12/19/16

3) Evaluate supplying dry gas from the discharge of the Recycle Gas Compressor rather than the Make Up Gas Compressor.
Commencement Date: 12/14/16
Completed: 9/12/17
Valero determined that detailed engineering design is required to further evaluate this Action Item. Once this is complete and if Valero decides to implement this project, a new Action Item will be created.

4) Install low point drain on the Make Up Gas Compressors 3rd stage discharge bottles to allow them to be drained routinely.
Commencement Date: 12/14/16
Estimated Completion Date: 12/31/18

5) Evaluate installing cyclone filter ahead of the 1st set of filters.
Commencement Date: 12/14/16
Completed: 9/12/17
This Action Item is not necessary if the dry gas is supplied from the discharge of the Recycle Gas Compressor.

(8.)

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

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

		(60.108a(c)(6)(iii))	(60.108a(c)(6)(iv))	(60.108a(c)(6)(vii))	(60.108a(c)(6)(vii))
First hour of 24-hr Period	**Last hour of 24-hr Period**	**24-hr cumulative volume of flared gas above Baseline**	**TRS or H2S ppm (24-hr average, flow-weighted)**	**24-hr cumulative SO2**	**24-hr cumulative reduced sulfur**
		SCF	ppmv	lbs	lbs as H2S
11/16/2016 2:00	11/17/2016 1:00	0	0	0.0	0.0
11/16/2016 3:00	11/17/2016 2:00	182,185	215	155.2	0.8
11/16/2016 4:00	11/17/2016 3:00	1,633,661	565	2159.3	11.6
11/16/2016 5:00	11/17/2016 4:00	1,705,235	653	2184.1	11.7
11/16/2016 6:00	11/17/2016 5:00	1,741,310	677	2187.6	11.8
11/16/2016 7:00	11/17/2016 6:00	1,776,367	698	2190.5	11.8
11/16/2016 8:00	11/17/2016 7:00	1,795,718	728	2192.8	11.8
11/16/2016 9:00	11/17/2016 8:00	1,816,746	765	2195.9	11.8
11/16/2016 10:00	11/17/2016 9:00	1,914,534	886	2242.6	12.1
11/16/2016 11:00	11/17/2016 10:00	2,008,282	908	2250.9	12.1
11/16/2016 12:00	11/17/2016 11:00	2,105,191	918	2254.4	12.1
11/16/2016 13:00	11/17/2016 12:00	2,160,052	919	2254.7	12.1
11/16/2016 14:00	11/17/2016 13:00	2,211,098	920	2254.9	12.1
11/16/2016 15:00	11/17/2016 14:00	2,250,238	921	2255.0	12.1
11/16/2016 16:00	11/17/2016 15:00	2,280,939	921	2255.1	12.1
11/16/2016 17:00	11/17/2016 16:00	2,290,276	922	2255.1	12.1
11/16/2016 18:00	11/17/2016 17:00	2,290,276	922	2255.1	12.1
11/16/2016 19:00	11/17/2016 18:00	2,290,276	922	2255.1	12.1
11/16/2016 20:00	11/17/2016 19:00	2,290,276	922	2255.1	12.1
11/16/2016 21:00	11/17/2016 20:00	2,290,276	922	2255.1	12.1
11/16/2016 22:00	11/17/2016 21:00	2,290,276	922	2255.1	12.1
11/16/2016 23:00	11/17/2016 22:00	2,290,276	922	2255.1	12.1
11/17/2016 0:00	11/17/2016 23:00	2,292,291	932	2255.2	12.1
11/17/2016 1:00	11/18/2016 0:00	2,292,291	932	2255.2	12.1
11/17/2016 2:00	11/18/2016 1:00	2,292,291	932	2255.2	12.1
11/17/2016 3:00	11/18/2016 2:00	2,110,106	717	2100.0	11.3
11/17/2016 4:00	11/18/2016 3:00	658,629	367	95.9	0.5
11/17/2016 5:00	11/18/2016 4:00	587,056	279	71.0	0.4
11/17/2016 6:00	11/18/2016 5:00	550,981	255	67.6	0.4
11/17/2016 7:00	11/18/2016 6:00	532,810	240	65.1	0.3
11/17/2016 8:00	11/18/2016 7:00	604,203	218	65.5	0.4
11/17/2016 9:00	11/18/2016 8:00	676,414	185	64.0	0.3
11/17/2016 10:00	11/18/2016 9:00	609,687	68	17.8	0.1
11/17/2016 11:00	11/18/2016 10:00	563,519	48	9.9	0.1
11/17/2016 12:00	11/18/2016 11:00	515,450	40	6.8	0.0
11/17/2016 13:00	11/18/2016 12:00	462,444	41	6.5	0.0

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **176002**

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)**	Date of Event:	**11/29/16**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**1/5/17**

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

A description of the Discharge:

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

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

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

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

1) An undersized water boot.

2) Increased wash water rate post HC revamp (wash water rate increased approximately 50%).

3) Fouled mesh blanket.

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

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is

Is corrective action required? **Yes** (Yes/No)

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

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

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

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

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

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

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

1) Determine a maximum Ammonium Bisulfide concentration to set the minimum wash water injection rate upstream of HC-E-004 to reduce likelihood of water carryover in stripper feed stream, and determine adjusted corrosion rates.
Commencement Date: 1/5/17
Completed: 3/24/17

2) Review design of the Cold Flash Drum and generate MOCs and EWRs as needed to correct any deficiencies.
Commencement Date: 1/5/17
Completed: 6/26/17
The Cold Flash Drum does not need to be redesigned. The only design change needed is to replace the mesh blanket/demister pad with a plated frame type. New Action Item created 8/1/17.

3) Generate MOC or EWR to replace or upgrade mesh blanket in Cold Flash Drum.
Commencement Date: 1/5/17
Completed: 3/28/17

4) Order new HC-E-003 bundle for 2018. Evaluate possible metallurgy upgrade.
Commencement Date: 1/5/17
Estimated Completion Date: 1/1/18

5) Find an alternate location for the Flash Gas Scrubber KO Drum (HC-V-065) liquid and generate an EWR to reroute it.
Commencement Date: 1/5/17
Estimated Completion Date: 5/18/18

6) Replace the Cold Flash Drum mesh blanket/demister pad with a plated frame type.
Commencement Date: 8/1/17
Estimated Completion Date: 12/18/18

(8.)

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

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

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

(8.)

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

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

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

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **178573**

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)**	Date of Event:	**2/8/17**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**3/16/17**

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

A description of the Discharge:

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

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

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

(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)

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

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

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

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is

Is corrective action required? **Yes** (Yes/No)

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

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

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

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

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

1) Conduct vibration analysis on all small bore connections near the MUG compressors to determine if vibration induced fatigue failure is still a concern after alterations.
Commencement Date: 3/16/17
Completed: 5/19/17

2) Complete the removal of the vent line piping.
Commencement Date: 3/16/17
Estimated Completion Date: 12/31/18

3) Provide recommendation for suspected leaking block valve replacement in 2018 turnaround.
Commencement Date: 3/16/17
Completed: 8/1/17
New Action Item created for completion in next unit turnaround.

4) Perform the recommended refurbishment and implement a regular preventative maintenance practice to grease and stroke these valves at every catalyst change.
Commencement Date: 8/1/17
Estimated Completion Date: 12/31/18

(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
2/7/2017 7:00	2/8/2017 6:00	0	0	0.0	0.0
2/7/2017 8:00	2/8/2017 7:00	1,067,647	662	2792.3	15.0
2/7/2017 9:00	2/8/2017 8:00	1,287,083	1427	3456.4	18.6
2/7/2017 10:00	2/8/2017 9:00	1,288,025	2083	3458.8	18.6
2/7/2017 11:00	2/8/2017 10:00	1,288,062	2380	3458.9	18.6
2/7/2017 12:00	2/8/2017 11:00	1,288,062	2380	3458.9	18.6
2/7/2017 13:00	2/8/2017 12:00	1,288,062	2380	3458.9	18.6
2/7/2017 14:00	2/8/2017 13:00	1,288,062	2380	3458.9	18.6
2/7/2017 15:00	2/8/2017 14:00	1,288,062	2380	3458.9	18.6
2/7/2017 16:00	2/8/2017 15:00	1,288,062	2380	3458.9	18.6
2/7/2017 17:00	2/8/2017 16:00	1,288,062	2380	3458.9	18.6
2/7/2017 18:00	2/8/2017 17:00	1,288,062	2380	3458.9	18.6
2/7/2017 19:00	2/8/2017 18:00	1,288,062	2380	3458.9	18.6
2/7/2017 20:00	2/8/2017 19:00	1,288,062	2380	3458.9	18.6
2/7/2017 21:00	2/8/2017 20:00	1,288,062	2380	3458.9	18.6
2/7/2017 22:00	2/8/2017 21:00	1,288,062	2380	3458.9	18.6
2/7/2017 23:00	2/8/2017 22:00	1,288,062	2380	3458.9	18.6
2/8/2017 0:00	2/8/2017 23:00	1,288,062	2380	3458.9	18.6
2/8/2017 1:00	2/9/2017 0:00	1,288,062	2380	3458.9	18.6
2/8/2017 2:00	2/9/2017 1:00	1,288,062	2380	3458.9	18.6
2/8/2017 3:00	2/9/2017 2:00	1,288,410	2429	3458.9	18.6
2/8/2017 4:00	2/9/2017 3:00	1,289,898	3473	3465.1	18.6
2/8/2017 5:00	2/9/2017 4:00	1,289,898	3473	3465.1	18.6
2/8/2017 6:00	2/9/2017 5:00	1,289,898	3473	3465.1	18.6
2/8/2017 7:00	2/9/2017 6:00	1,289,898	3473	3465.1	18.6
2/8/2017 8:00	2/9/2017 7:00	222,252	2811	672.8	3.6
2/8/2017 9:00	2/9/2017 8:00	2,815	2045	8.7	0.0

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **178790**

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

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

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

A description of the Discharge:

On 2/13/17 at approximately 22:58, all four refinery boilers and the #3 Sulfur Recovery Unit (SRU) shutdown due to low boiler feed water pressure. Valero had just began the process of inventorying three steam generators in the Reformer Unit. The resulting reduction in refinery steam header pressure caused the shutdown of the Hydrocracker/Hydrotreater, ROSE Unit, Kerosene Hydrotreater, Ultra Low Sulfur Diesel Hydrotreater, and reduced the Crude Unit to minimum rates. Flaring exceeded 500,000 SCF/24 hours and 500 lbs of SO_2/24 hours. Excess SO_2 emissions occurred at multiple heaters and boilers and both the #2 and #3 SRU, but were less than 500 lbs of SO_2/24 hours.

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

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

Root Cause(s):

1) Turbine driven Boiler Feed Water (BFW) Pump in Area 4 North (B-P-022A) tripped off line and the spillback control valve remained open causing low BFW system pressure alarms. No corrective actions were taken to address the low BFW system pressure.

2) The Area 4 South Electric BFW Pump was unavailable to "auto" start upon low pressure event due to the starter placed in the "off" position.

Contributing Factor(s):

1) The significance of the lower BFW pressure was not recognized.

2) Inadequate communication - lack of information in shift logs; lack of information transferred between shift teams.

3) Inaccurate information entered in Intelatrac rounds; Intelatrac alert settings improperly set.

4) The BFW flow control valves to the Reformer Steam Generators leaked during initial inventory.

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

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is not taken.

Is corrective action required? **Yes** (Yes/No)

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

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

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

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

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

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

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

1) Modify the BFW Pumps (B-P-022A/B) spillback control valve control scheme to automatically close the spillback valves upon pump shutdown.
Commencement Date: 3/16/17
Completed: 3/16/17

2) Review Intelatrac rounds for the Area 4 BFW system and revise as needed.
Commencement Date: 3/16/17
Completed: 6/5/17

3) Conduct refresher training for all Area 4 Operators on BFW system and Intelatrac round changes.
Commencement Date: 3/16/17
Completed: 7/17/17

4) Evaluate spillback protection for BFW Pumps and determine if any additional modifications are necessary.
Commencement Date: 3/16/17
Completed: 8/24/17

5) Emphasize importance of electronic shift log and shift-to-shift communication.
Commencement Date: 3/16/17
Completed: 5/31/17

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

(8.)

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

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

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

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **182740/182775**

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)**	Date of Event:	**6/9/17**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**7/13/17**
	South Flare (EPN 3-77, EQT 0049)		

(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	**6/9/17 19:56**
Date/Time the discharge had ceased	**6/10/17 19:36**
Duration of Discharge (Calculated)	**23.7** 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.

(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)

Root Cause(s):

1) The South NHT Compressor tripping offline was caused by a failed limit switch that initiated an unnecessary shutdown.

2) The failed startup attempts on the North NHT compressor was due to the lube oil pressure not being satisfied within the set timeframe (30 secs).

3) Operator inadvertently shut the valve that isolates the flare header from the FGR Compressor instead of the make up water valve.

Contributing Factor(s):

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

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

Corrective Action Analysis: Include a description of the recommended corrective action(s) or an explanation of why corrective action is not

Is corrective action required? **Yes** (Yes/No)

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

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

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

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

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

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

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

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

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

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

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

1) Remove the limit switches that caused the unnecessary trip.
Commencement Date: 7/13/17
Estimated Completion Date: 11/24/17
Estimated Completion date extended.

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: 8/21/17

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
Estimated Completion Date: 12/18/18

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
Estimated Completion Date: 11/28/17

(8.)

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

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

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

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **182915**

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)**	Date of Event:	**6/15/17**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**7/13/17**

(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	**6/15/17 17:17**	
Date/Time the discharge had ceased	**6/15/17 21:33**	
Duration of Discharge (Calculated)	**4.3**	hrs

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

The steps taken to limit the emissions during the discharge:

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

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

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

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

Did the discharge result from a planned startup or shutdown?	**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)

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
Estimated Completion Date: 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
Estimated Completion Date: 12/31/18

(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
6/14/2017 17:00	6/15/2017 16:00	129,365	2000	219.8	1.2
6/14/2017 18:00	6/15/2017 17:00	768,623	2002	225.0	1.2
6/14/2017 19:00	6/15/2017 18:00	1,910,283	2002	225.2	1.2
6/14/2017 20:00	6/15/2017 19:00	2,858,067	2004	232.6	1.2
6/14/2017 21:00	6/15/2017 20:00	3,675,376	2007	241.5	1.3
6/14/2017 22:00	6/15/2017 21:00	3,734,194	2031	247.1	1.3
6/14/2017 23:00	6/15/2017 22:00	3,671,798	1608	142.7	0.8
6/15/2017 0:00	6/15/2017 23:00	3,662,181	1179	126.4	0.7
6/15/2017 1:00	6/16/2017 0:00	3,660,856	1098	126.0	0.7
6/15/2017 2:00	6/16/2017 1:00	3,660,856	1098	126.0	0.7
6/15/2017 3:00	6/16/2017 2:00	3,637,341	422	63.2	0.3
6/15/2017 4:00	6/16/2017 3:00	3,637,102	380	63.2	0.3
6/15/2017 5:00	6/16/2017 4:00	3,604,924	98	27.3	0.1
6/15/2017 6:00	6/16/2017 5:00	3,604,924	98	27.3	0.1
6/15/2017 7:00	6/16/2017 6:00	3,604,924	98	27.3	0.1
6/15/2017 8:00	6/16/2017 7:00	3,604,924	98	27.3	0.1
6/15/2017 9:00	6/16/2017 8:00	3,604,924	98	27.3	0.1
6/15/2017 10:00	6/16/2017 9:00	3,604,829	31	27.3	0.1
6/15/2017 11:00	6/16/2017 10:00	3,609,714	166	29.9	0.2
6/15/2017 12:00	6/16/2017 11:00	3,610,367	219	30.1	0.2
6/15/2017 13:00	6/16/2017 12:00	3,610,367	1040	30.1	0.2
6/15/2017 14:00	6/16/2017 13:00	3,610,367	1040	30.1	0.2
6/15/2017 15:00	6/16/2017 14:00	3,610,367	1040	30.1	0.2
6/15/2017 16:00	6/16/2017 15:00	3,610,367	1040	30.1	0.2
6/15/2017 17:00	6/16/2017 16:00	3,610,367	1040	30.1	0.2
6/15/2017 18:00	6/16/2017 17:00	2,971,109	1038	24.9	0.1
6/15/2017 19:00	6/16/2017 18:00	1,829,449	1038	24.7	0.1
6/15/2017 20:00	6/16/2017 19:00	881,664	1036	17.3	0.1
6/15/2017 21:00	6/16/2017 20:00	64,355	1033	8.4	0.0

Subpart Ja Root Cause / Corrective Action Analysis

Impact Incident Number: **184369**

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

Report:	**Initial**		
Refinery:	**Valero (Meraux)**		
Incident Type:	**Flaring (Flow and SO2), SRU (SO2)**	Date of Event:	**8/9/17**
Emissions Source(s):	**North Flare (EPN 20-72, EQT 0035)**	Date Analysis Completed:	**9/7/17**
	South Flare (EPN 3-77, EQT 0049)		
	#3 SRU Incinerator (EPN 5-00, EQT 0079)		

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

A description of the Discharge:

At approximately 04:42 on 8/9/17, the Meraux Refinery lost electrical power on one of the four 13.8 kilovolts (kV) feeders suppling electrical power to the refinery. Although power was interrupted for only three seconds, 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 8/9/17. This continued until 8/11/17. There were additional periods of flaring on 8/10/17 and 8/11/17, but this flaring consisted of clean hydrogen or excess fuel gas that did not contain significant quantities of H2S

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

	North Flare	**#3 SRU**	
Date and Time the discharge was first identified	**8/9/17 4:50**	**8/9/17 4:46**	
Date/Time the discharge had ceased	**8/11/17 8:00**	**8/9/17 19:09**	
Duration of Discharge (Calculated)	**51.2**	**14.4**	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?	**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)

1) The root cause was a raccoon climbing on the support structure in the electrical switchyard which caused a short that opened the breaker supplying power to the refinery. Electrical equipment in the switchyard showed clear signs of recent flashover damage and the remains of a raccoon was found under this equipment.

(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) Valero is pursuing an agreement with the owner and operator of the electrical switchyard to fund and install precise-fit dielectric protection covers to protect the equipment from bird and animal contact. These types of covers are not commonly found on high voltage electrical distribution equipment and are above and beyond what is considered industry standard practice.

Valero has elected to install these protective covers to reduce the likelihood of this reoccurring, but their absence prior to the incident should not be construed as a deficiency.

(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) Install precise-fit dielectric protection covers to protect the equipment from bird and animal contact

Commencement Date: 9/7/17

Estimated Completion Date: 12/31/17

(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
8/8/2017 4:00	8/9/2017 3:00	46,258	4,652	35	0
8/8/2017 5:00	8/9/2017 4:00	191,060	4681	187.3	1.0
8/8/2017 6:00	8/9/2017 5:00	930,086	4418	793.8	4.3
8/8/2017 7:00	8/9/2017 6:00	1,448,653	4298	1074.8	5.8
8/8/2017 8:00	8/9/2017 7:00	1,867,050	4250	1102.8	5.9
8/8/2017 9:00	8/9/2017 8:00	2,263,803	4222	1123.4	6.0
8/8/2017 10:00	8/9/2017 9:00	2,632,872	4203	1148.2	6.2
8/8/2017 11:00	8/9/2017 10:00	2,835,156	4177	1155.8	6.2
8/8/2017 12:00	8/9/2017 11:00	2,953,501	4649	1397.8	7.5
8/8/2017 13:00	8/9/2017 12:00	3,013,720	4811	1446.8	7.8
8/8/2017 14:00	8/9/2017 13:00	3,014,346	4927	1447.3	7.8
8/8/2017 15:00	8/9/2017 14:00	3,039,860	4907	1449.1	7.8
8/8/2017 16:00	8/9/2017 15:00	3,064,735	4878	1450.3	7.8
8/8/2017 17:00	8/9/2017 16:00	3,062,479	4854	1449.8	7.8
8/8/2017 18:00	8/9/2017 17:00	3,070,778	4839	1450.3	7.8
8/8/2017 19:00	8/9/2017 18:00	3,102,181	4799	1451.3	7.8
8/8/2017 20:00	8/9/2017 19:00	3,105,976	4763	1451.4	7.8
8/8/2017 21:00	8/9/2017 20:00	3,109,299	4366	1450.5	7.8
8/8/2017 22:00	8/9/2017 21:00	3,110,006	4070	1448.3	7.8
8/8/2017 23:00	8/9/2017 22:00	3,115,546	4080	1448.5	7.8
8/9/2017 0:00	8/9/2017 23:00	3,124,582	3533	1445.4	7.8
8/9/2017 1:00	8/10/2017 0:00	3,125,379	2949	1443.9	7.8
8/9/2017 2:00	8/10/2017 1:00	3,126,526	2379	1442.9	7.8
8/9/2017 3:00	8/10/2017 2:00	3,132,815	2079	1441.2	7.7
8/9/2017 4:00	8/10/2017 3:00	3,133,237	1725	1435.2	7.7
8/9/2017 5:00	8/10/2017 4:00	2,992,585	1490	1280.7	6.9
8/9/2017 6:00	8/10/2017 5:00	2,255,898	1325	672.2	3.6
8/9/2017 7:00	8/10/2017 6:00	1,737,950	1239	386.1	2.1
8/9/2017 8:00	8/10/2017 7:00	1,349,796	1249	360.6	1.9
8/9/2017 9:00	8/10/2017 8:00	1,098,492	1245	344.4	1.9
8/9/2017 10:00	8/10/2017 9:00	964,837	1234	325.3	1.7
8/9/2017 11:00	8/10/2017 10:00	811,207	1238	320.3	1.7
8/9/2017 12:00	8/10/2017 11:00	763,167	737	80.6	0.4
8/9/2017 13:00	8/10/2017 12:00	783,257	543	33.8	0.2
8/9/2017 14:00	8/10/2017 13:00	854,917	400	34.5	0.2
8/9/2017 15:00	8/10/2017 14:00	934,062	387	34.7	0.2
8/9/2017 16:00	8/10/2017 15:00	1,033,502	377	35.7	0.2
8/9/2017 17:00	8/10/2017 16:00	1,160,882	360	38.2	0.2
8/9/2017 18:00	8/10/2017 17:00	1,276,727	347	38.9	0.2
8/9/2017 19:00	8/10/2017 18:00	1,379,550	341	40.0	0.2
8/9/2017 20:00	8/10/2017 19:00	1,526,393	334	41.5	0.2
8/9/2017 21:00	8/10/2017 20:00	1,611,854	320	43.1	0.2
8/9/2017 22:00	8/10/2017 21:00	1,696,156	307	44.1	0.2
8/9/2017 23:00	8/10/2017 22:00	1,781,204	298	44.4	0.2
8/10/2017 0:00	8/10/2017 23:00	1,871,864	292	46.0	0.2
8/10/2017 1:00	8/11/2017 0:00	1,968,646	288	47.1	0.3
8/10/2017 2:00	8/11/2017 1:00	2,072,407	283	48.4	0.3
8/10/2017 3:00	8/11/2017 2:00	2,175,050	274	49.5	0.3
8/10/2017 4:00	8/11/2017 3:00	2,283,257	257	50.3	0.3
8/10/2017 5:00	8/11/2017 4:00	2,388,835	227	50.0	0.3
8/10/2017 6:00	8/11/2017 5:00	2,502,169	188	50.8	0.3
8/10/2017 7:00	8/11/2017 6:00	2,651,863	136	50.5	0.3

(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
8/10/2017 8:00	8/11/2017 7:00	2,631,351	127	47.7	0.3
8/10/2017 9:00	8/11/2017 8:00	2,484,250	175	43.3	0.2
8/10/2017 10:00	8/11/2017 9:00	2,249,985	169	37.5	0.2
8/10/2017 11:00	8/11/2017 10:00	2,202,230	155	34.9	0.2
8/10/2017 12:00	8/11/2017 11:00	2,130,949	146	32.3	0.2
8/10/2017 13:00	8/11/2017 12:00	2,055,917	138	29.8	0.2
8/10/2017 14:00	8/11/2017 13:00	1,986,072	134	28.6	0.2
8/10/2017 15:00	8/11/2017 14:00	1,888,886	129	26.5	0.1
8/10/2017 16:00	8/11/2017 15:00	1,763,680	124	24.0	0.1
8/10/2017 17:00	8/11/2017 16:00	1,642,981	119	21.3	0.1
8/10/2017 18:00	8/11/2017 17:00	1,523,284	116	20.1	0.1
8/10/2017 19:00	8/11/2017 18:00	1,390,153	112	17.7	0.1
8/10/2017 20:00	8/11/2017 19:00	1,242,869	109	16.0	0.1
8/10/2017 21:00	8/11/2017 20:00	1,155,975	104	14.1	0.1
8/10/2017 22:00	8/11/2017 21:00	1,071,372	100	13.0	0.1
8/10/2017 23:00	8/11/2017 22:00	984,055	99	12.5	0.1
8/11/2017 0:00	8/11/2017 23:00	887,833	94	10.4	0.1
8/11/2017 1:00	8/12/2017 0:00	791,221	91	9.2	0.0
8/11/2017 2:00	8/12/2017 1:00	687,531	87	7.8	0.0
8/11/2017 3:00	8/12/2017 2:00	582,817	84	6.5	0.0
8/11/2017 4:00	8/12/2017 3:00	471,430	81	5.2	0.0

(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
8/8/2017 4:00	8/9/2017 3:00	24,106,577	58	233.7	1.3
8/8/2017 5:00	8/9/2017 4:00	24,182,988	75	307.0	1.7
8/8/2017 6:00	8/9/2017 5:00	24,575,070	145	694.0	3.7
8/8/2017 7:00	8/9/2017 6:00	24,092,525	174	749.5	4.0
8/8/2017 8:00	8/9/2017 7:00	23,414,879	185	758.0	4.1
8/8/2017 9:00	8/9/2017 8:00	22,699,494	210	779.9	4.2
8/8/2017 10:00	8/9/2017 9:00	22,012,119	213	777.1	4.2
8/8/2017 11:00	8/9/2017 10:00	21,413,516	218	777.7	4.2
8/8/2017 12:00	8/9/2017 11:00	20,723,027	220	773.6	4.2
8/8/2017 13:00	8/9/2017 12:00	20,004,789	223	769.7	4.1
8/8/2017 14:00	8/9/2017 13:00	19,276,104	225	764.6	4.1
8/8/2017 15:00	8/9/2017 14:00	18,529,534	226	758.5	4.1
8/8/2017 16:00	8/9/2017 15:00	17,763,638	248	771.5	4.1
8/8/2017 17:00	8/9/2017 16:00	17,077,073	287	814.7	4.4
8/8/2017 18:00	8/9/2017 17:00	16,534,826	326	881.4	4.7
8/8/2017 19:00	8/9/2017 18:00	16,129,075	343	916.7	4.9
8/8/2017 20:00	8/9/2017 19:00	15,804,178	347	925.0	5.0
8/8/2017 21:00	8/9/2017 20:00	15,475,097	349	926.7	5.0
8/8/2017 22:00	8/9/2017 21:00	15,184,342	351	931.1	5.0
8/8/2017 23:00	8/9/2017 22:00	14,943,355	353	935.4	5.0
8/9/2017 0:00	8/9/2017 23:00	14,748,475	355	939.8	5.1
8/9/2017 1:00	8/10/2017 0:00	14,541,282	357	942.6	5.1
8/9/2017 2:00	8/10/2017 1:00	14,331,243	358	944.8	5.1
8/9/2017 3:00	8/10/2017 2:00	14,122,892	359	946.8	5.1
8/9/2017 4:00	8/10/2017 3:00	13,928,254	361	949.9	5.1
8/9/2017 5:00	8/10/2017 4:00	13,686,503	346	881.9	4.7
8/9/2017 6:00	8/10/2017 5:00	13,182,366	279	503.1	2.7
8/9/2017 7:00	8/10/2017 6:00	13,581,044	253	456.5	2.5
8/9/2017 8:00	8/10/2017 7:00	14,183,170	244	457.2	2.5
8/9/2017 9:00	8/10/2017 8:00	14,848,092	222	444.0	2.4
8/9/2017 10:00	8/10/2017 9:00	15,530,951	220	453.2	2.4
8/9/2017 11:00	8/10/2017 10:00	16,150,895	218	461.9	2.5
8/9/2017 12:00	8/10/2017 11:00	16,813,426	218	474.2	2.5
8/9/2017 13:00	8/10/2017 12:00	17,413,200	216	481.5	2.6
8/9/2017 14:00	8/10/2017 13:00	18,018,067	215	490.2	2.6
8/9/2017 15:00	8/10/2017 14:00	18,704,403	249	626.3	3.4
8/9/2017 16:00	8/10/2017 15:00	19,325,815	242	663.3	3.6
8/9/2017 17:00	8/10/2017 16:00	19,834,360	206	630.3	3.4
8/9/2017 18:00	8/10/2017 17:00	20,199,841	169	567.7	3.1
8/9/2017 19:00	8/10/2017 18:00	20,430,898	155	538.2	2.9
8/9/2017 20:00	8/10/2017 19:00	20,557,220	153	535.0	2.9
8/9/2017 21:00	8/10/2017 20:00	20,695,751	154	539.6	2.9
8/9/2017 22:00	8/10/2017 21:00	20,796,098	154	542.0	2.9
8/9/2017 23:00	8/10/2017 22:00	20,862,729	154	545.5	2.9
8/10/2017 0:00	8/10/2017 23:00	20,881,043	155	548.5	2.9
8/10/2017 1:00	8/11/2017 0:00	20,898,139	156	551.6	3.0
8/10/2017 2:00	8/11/2017 1:00	20,906,120	157	554.7	3.0
8/10/2017 3:00	8/11/2017 2:00	20,907,571	158	558.0	3.0
8/10/2017 4:00	8/11/2017 3:00	20,909,187	159	561.0	3.0
8/10/2017 5:00	8/11/2017 4:00	20,880,800	160	562.5	3.0
8/10/2017 6:00	8/11/2017 5:00	20,806,214	160	561.6	3.0
8/10/2017 7:00	8/11/2017 6:00	20,706,577	160	559.8	3.0

(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 average, flow-weighted)[1]**	**24-hr cumulative SO_2[2]**	**24-hr cumulative reduced sulfur**
		SCF	ppmv	lbs	lbs as H2S
8/10/2017 8:00	8/11/2017 7:00	20,594,183	160	557.5	3.0
8/10/2017 9:00	8/11/2017 8:00	20,449,393	160	555.0	3.0
8/10/2017 10:00	8/11/2017 9:00	20,261,388	160	552.3	3.0
8/10/2017 11:00	8/11/2017 10:00	20,060,683	160	547.6	2.9
8/10/2017 12:00	8/11/2017 11:00	19,910,738	160	544.6	2.9
8/10/2017 13:00	8/11/2017 12:00	19,818,679	160	545.5	2.9
8/10/2017 14:00	8/11/2017 13:00	19,751,410	161	545.8	2.9
8/10/2017 15:00	8/11/2017 14:00	19,631,190	128	420.9	2.3

[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.