42-045-00070
PA000293037
JAN 3 1 2017

**Monroe Energy, LLC**
**4101 Post Road**
**Trainer, PA 19061**
**(610) 364-8000**

January 26, 2017

**Fedex 7781 3871 0378**

Mr. James Rebarchak
Commonwealth of Pennsylvania
Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

**Re: Monroe Energy, LLC – Trainer Refinery**
**40 CFR 63, Subpart UUU Semiannual Report**
**Reporting Period: July 1 – December 31, 2016**

Dear Mr. Rebarchak:

In accordance with 40 CFR 63 Subpart UUU, Monroe Energy, LLC's Trainer Refinery hereby submits this semi-annual compliance report (per §63.1575(b)(2)) for the period beginning July 1, 2016 and ending December 31, 2016. Compliance reporting for the applicable MACT II emission limitations and work practices are detailed in the enclosed appendices.

Should you have any questions or comments regarding this report, please contact me at 610-364-8399.

Sincerely,

Matthew Torell, P.E.
Environmental Leader

Enclosure

cc: Office of Air Enforcement and Compliance Assistance (3AP20)
U.S. EPA, Region III
1650 Arch Street
Philadelphia, Pa 19103-2029
**FedEx 7781 3878 8170**

**Monroe Energy, LLC**
**4101 Post Road**
**Trainer, PA 19061**
**(610) 364-8000**

***Responsible Official Certification***

Based upon information and belief formed after a reasonable inquiry, I, as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge.

**Jeffrey K. Warmann,**
**CEO & President**

## Appendix A-Excess Emission and Monitoring System Performance Summary

## EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE SUMMARY REPORT

Pollutant (Circle One): $SO_2$ $NO_X$ TRS $H_2S$ (CO) Opacity

Reporting period dates: From **July 1, 2016** to **December 31, 2016**

Company: **Monroe Energy, LLC**

Emission Limitation: **500 ppm (1-hour average)**

Address: **4101 Post Rd, Trainer PA 19061**

Monitor Manufacturer: **Servomex**

Model No.: **04900C1-4202**

Date of Latest CMS Certification or Audit: **12/22/2016 (Linearity Test)**

Process Unit(s) Description: **FCCU**

Total source operating time in reporting period : **3968.25 hours**

| Emission data summary [1] | | CMS performance summary [1] | |
|---|---|---|---|
| 1. Duration of excess emissions in the reporting period due to: | | 1. CMS downtime in the reporting period due to: | |
| a. Startup/shutdown | **0** | a. Monitor equipment malfunctions | **0** |
| b. Control equipment problems | **0** | b. Non-Monitor equipment malfunctions | **3** |
| c. Process problems | **0** | c. Quality assurance calibration | **201** |
| d. Other known causes | **0** | d. Other known causes | **0** |
| e. Unknown causes | **0** | e. Unknown causes | **0** |
| 2. Total duration of excess emissions | **0** | 2. Total CMS Downtime | **204** |
| 3. Total duration of excess emissions x (100) / [Total source operating time] | **0.0** % | 3. [Total CMS Downtime] x (100) / [Total source operating time] | **5.1** % |

Notes:

On a separate page, describe any changes since last quarter in CMS, process or controls. **No changes to the CMS, process, or controls have occurred since last reporting period.**

The detailed FCCU CO CEMS downtime information is included below because the total downtime was greater than 5% of the total source operating time. This is not required by the regulation, but is being submitted for clarity.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 1 | 07/01/2016 05:00 | 07/01/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 2 | 07/02/2016 05:00 | 07/02/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 3 | 07/03/2016 05:00 | 07/03/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 4 | 07/03/2016 09:00 | 07/03/2016 09:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 5 | 07/04/2016 05:00 | 07/04/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 6 | 07/05/2016 05:00 | 07/05/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 7 | 07/05/2016 07:00 | 07/05/2016 07:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 8 | 07/06/2016 05:00 | 07/06/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 9 | 07/07/2016 05:00 | 07/07/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 10 | 07/08/2016 05:00 | 07/08/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 11 | 07/09/2016 05:00 | 07/09/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 12 | 07/10/2016 05:00 | 07/10/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 13 | 07/11/2016 05:00 | 07/11/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 14 | 07/12/2016 05:00 | 07/12/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 15 | 07/13/2016 05:00 | 07/13/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 16 | 07/14/2016 05:00 | 07/14/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 17 | 07/15/2016 05:00 | 07/15/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 18 | 07/16/2016 05:00 | 07/16/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 19 | 07/17/2016 05:00 | 07/17/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 20 | 07/18/2016 05:00 | 07/18/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 21 | 07/19/2016 05:00 | 07/19/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 22 | 07/20/2016 05:00 | 07/20/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 23 | 07/21/2016 05:00 | 07/21/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 24 | 07/22/2016 05:00 | 07/22/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 25 | 07/23/2016 05:00 | 07/23/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 26 | 07/24/2016 05:00 | 07/24/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 27 | 07/25/2016 05:00 | 07/25/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 28 | 07/26/2016 05:00 | 07/26/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 29 | 07/27/2016 05:00 | 07/27/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 30 | 07/28/2016 05:00 | 07/28/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 31 | 07/29/2016 05:00 | 07/29/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 32 | 07/30/2016 05:00 | 07/30/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 33 | 07/31/2016 05:00 | 07/31/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 34 | 08/01/2016 05:00 | 08/01/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 35 | 08/02/2016 05:00 | 08/02/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 36 | 08/03/2016 05:00 | 08/03/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 37 | 08/04/2016 05:00 | 08/04/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 38 | 08/05/2016 05:00 | 08/05/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 39 | 08/06/2016 05:00 | 08/06/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 40 | 08/07/2016 05:00 | 08/07/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 41 | 08/08/2016 05:00 | 08/08/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 42 | 08/09/2016 05:00 | 08/09/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 43 | 08/10/2016 05:00 | 08/10/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 44 | 08/11/2016 05:00 | 08/11/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 45 | 08/12/2016 05:00 | 08/12/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 46 | 08/13/2016 05:00 | 08/13/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 47 | 08/14/2016 05:00 | 08/14/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 48 | 08/15/2016 05:00 | 08/15/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 49 | 08/16/2016 05:00 | 08/16/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 50 | 08/17/2016 05:00 | 08/17/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 51 | 08/18/2016 05:00 | 08/18/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 52 | 08/18/2016 07:00 | 08/18/2016 07:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 53 | 08/19/2016 05:00 | 08/19/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 54 | 08/20/2016 05:00 | 08/20/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 55 | 08/21/2016 05:00 | 08/21/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 56 | 08/22/2016 05:00 | 08/22/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 57 | 08/22/2016 08:00 | 08/22/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 58 | 08/23/2016 05:00 | 08/23/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 59 | 08/24/2016 05:00 | 08/24/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 60 | 08/25/2016 05:00 | 08/25/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

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# Downtime Events - Duration

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**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 61 | 08/26/2016 05:00 | 08/26/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 62 | 08/26/2016 07:00 | 08/26/2016 07:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 63 | 08/27/2016 05:00 | 08/27/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 64 | 08/28/2016 05:00 | 08/28/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 65 | 08/29/2016 05:00 | 08/29/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 66 | 08/30/2016 05:00 | 08/30/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 67 | 08/31/2016 05:00 | 08/31/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 68 | 09/01/2016 05:00 | 09/01/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 69 | 09/02/2016 05:00 | 09/02/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 70 | 09/03/2016 05:00 | 09/03/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 71 | 09/03/2016 07:00 | 09/03/2016 07:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 72 | 09/04/2016 05:00 | 09/04/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 73 | 09/05/2016 05:00 | 09/05/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 74 | 09/06/2016 05:00 | 09/06/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 75 | 09/07/2016 05:00 | 09/07/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 76 | 09/07/2016 08:00 | 09/07/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 77 | 09/07/2016 10:00 | 09/07/2016 15:59 | 6.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 78 | 09/08/2016 05:00 | 09/08/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 79 | 09/09/2016 05:00 | 09/09/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 80 | 09/10/2016 05:00 | 09/10/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
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Time Online Criteria: 1 minute(s)

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**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 81 | 09/11/2016 05:00 | 09/11/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 82 | 09/12/2016 05:00 | 09/12/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 83 | 09/13/2016 05:00 | 09/13/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 84 | 09/13/2016 08:00 | 09/13/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 85 | 09/14/2016 05:00 | 09/14/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 86 | 09/15/2016 05:00 | 09/15/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 87 | 09/15/2016 07:00 | 09/15/2016 07:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 88 | 09/16/2016 05:00 | 09/16/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 89 | 09/17/2016 05:00 | 09/17/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 90 | 09/18/2016 05:00 | 09/18/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 91 | 09/19/2016 05:00 | 09/19/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 92 | 09/20/2016 05:00 | 09/20/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 93 | 09/21/2016 05:00 | 09/21/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 94 | 09/22/2016 05:00 | 09/22/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 95 | 09/23/2016 05:00 | 09/23/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 96 | 09/23/2016 08:00 | 09/23/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 97 | 09/24/2016 05:00 | 09/24/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 98 | 09/25/2016 05:00 | 09/25/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 99 | 09/26/2016 05:00 | 09/26/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 100 | 09/27/2016 05:00 | 09/27/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 101 | 09/27/2016 07:00 | 09/27/2016 08:59 | 2.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 102 | 09/28/2016 05:00 | 09/28/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 103 | 09/29/2016 05:00 | 09/29/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 104 | 09/30/2016 05:00 | 09/30/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 105 | 09/30/2016 08:00 | 09/30/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 106 | 10/01/2016 05:00 | 10/01/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 107 | 10/02/2016 05:00 | 10/02/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 108 | 10/02/2016 12:00 | 10/02/2016 12:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 109 | 10/03/2016 05:00 | 10/03/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 110 | 10/04/2016 05:00 | 10/04/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 111 | 10/05/2016 05:00 | 10/05/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 112 | 10/06/2016 05:00 | 10/06/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 113 | 10/06/2016 09:00 | 10/06/2016 09:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 114 | 10/07/2016 05:00 | 10/07/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 115 | 10/08/2016 05:00 | 10/08/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 116 | 10/09/2016 05:00 | 10/09/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 117 | 10/10/2016 05:00 | 10/10/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 118 | 10/11/2016 05:00 | 10/11/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 119 | 10/11/2016 08:00 | 10/11/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 120 | 10/12/2016 05:00 | 10/12/2016 07:59 | 3.00 | 08 - NORMAL OPERATION<br>11 - EXCESS DRIFT PRIMARY ANALYZER |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 121 | 10/13/2016 05:00 | 10/13/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 122 | 10/13/2016 08:00 | 10/13/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 123 | 10/14/2016 05:00 | 10/14/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 124 | 10/15/2016 05:00 | 10/15/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 125 | 11/03/2016 05:00 | 11/03/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 126 | 11/04/2016 05:00 | 11/04/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 127 | 11/04/2016 08:00 | 11/04/2016 08:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 128 | 11/05/2016 05:00 | 11/05/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 129 | 11/06/2016 05:00 | 11/06/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 130 | 11/07/2016 05:00 | 11/07/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 131 | 11/08/2016 05:00 | 11/08/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 132 | 11/09/2016 05:00 | 11/09/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 133 | 11/10/2016 05:00 | 11/10/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 134 | 11/11/2016 05:00 | 11/11/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 135 | 11/12/2016 05:00 | 11/12/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 136 | 11/13/2016 05:00 | 11/13/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 137 | 11/14/2016 05:00 | 11/14/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 138 | 11/15/2016 05:00 | 11/15/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 139 | 11/16/2016 05:00 | 11/16/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 140 | 11/17/2016 05:00 | 11/17/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 141 | 11/18/2016 05:00 | 11/18/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 142 | 11/19/2016 05:00 | 11/19/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 143 | 11/20/2016 05:00 | 11/20/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 144 | 11/21/2016 05:00 | 11/21/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 145 | 11/22/2016 05:00 | 11/22/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 146 | 11/23/2016 05:00 | 11/23/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 147 | 11/23/2016 11:00 | 11/23/2016 11:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 148 | 11/24/2016 05:00 | 11/24/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 149 | 11/25/2016 05:00 | 11/25/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 150 | 11/25/2016 10:00 | 11/25/2016 10:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 151 | 11/26/2016 05:00 | 11/26/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 152 | 11/27/2016 05:00 | 11/27/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 153 | 11/28/2016 05:00 | 11/28/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 154 | 11/29/2016 05:00 | 11/29/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 155 | 11/29/2016 09:00 | 11/29/2016 09:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 156 | 11/29/2016 14:00 | 11/29/2016 14:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 157 | 11/30/2016 05:00 | 11/30/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 158 | 12/01/2016 05:00 | 12/01/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 159 | 12/01/2016 10:00 | 12/01/2016 10:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 160 | 12/02/2016 05:00 | 12/02/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 161 | 12/03/2016 05:00 | 12/03/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 162 | 12/04/2016 05:00 | 12/04/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 163 | 12/05/2016 05:00 | 12/05/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 164 | 12/05/2016 10:00 | 12/05/2016 10:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 165 | 12/06/2016 05:00 | 12/06/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 166 | 12/07/2016 05:00 | 12/07/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 167 | 12/08/2016 05:00 | 12/08/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 168 | 12/09/2016 05:00 | 12/09/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 169 | 12/10/2016 05:00 | 12/10/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 170 | 12/11/2016 05:00 | 12/11/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 171 | 12/12/2016 05:00 | 12/12/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 172 | 12/13/2016 05:00 | 12/13/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 173 | 12/14/2016 05:00 | 12/14/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 174 | 12/15/2016 05:00 | 12/15/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 175 | 12/16/2016 05:00 | 12/16/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 176 | 12/17/2016 05:00 | 12/17/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 177 | 12/18/2016 05:00 | 12/18/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 178 | 12/19/2016 05:00 | 12/19/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 179 | 12/20/2016 05:00 | 12/20/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 180 | 12/21/2016 05:00 | 12/21/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |

* Indicates duration incident could have additional data prior to the start date or following the end date.

# Downtime Events - Duration

Plant: MONROE ENERGY, LLC.
Report Period: 07/01/2016 00:00 Through 12/31/2016 23:59
Time Online Criteria: 1 minute(s)

**Source:** FCCSTACK
**Parameter:** COPPMC0
**Interval:** 001H

| Incident ID | Start Date/Time | End Date/Time | Duration (hours) | Reason Code - Description<br>Action Code - Description |
|---|---|---|---|---|
| 181 | 12/21/2016 13:00 | 12/21/2016 13:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 182 | 12/22/2016 05:00 | 12/22/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 183 | 12/22/2016 09:00 | 12/22/2016 10:59 | 2.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 184 | 12/22/2016 12:00 | 12/22/2016 14:59 | 3.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 185 | 12/23/2016 05:00 | 12/23/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 186 | 12/24/2016 05:00 | 12/24/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 187 | 12/25/2016 05:00 | 12/25/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 188 | 12/26/2016 05:00 | 12/26/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 189 | 12/27/2016 05:00 | 12/27/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 190 | 12/28/2016 05:00 | 12/28/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 191 | 12/29/2016 05:00 | 12/29/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 192 | 12/30/2016 05:00 | 12/30/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| 193 | 12/31/2016 05:00 | 12/31/2016 05:59 | 1.00 | 08 - NORMAL OPERATION<br>14 - RECALIBRATION |
| | | **Number of Events:** | 193 | |
| | | **Total Duration:** | 204.00 hours | |

* Indicates duration incident could have additional data prior to the start date or following the end date.

## EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE SUMMARY REPORT

Pollutant (Circle One): $SO_2$ $NO_x$ TRS $H_2S$ CO Opacity

Reporting period dates: From **July 1, 2016** to **December 31, 2016**

Company: **Monroe Energy, LLC**

Emission Limitation: **250 ppm (12- hour rolling average)**

Address: **4101 Post Rd, Trainer PA 19061**

Monitor Manufacturer: **AMETEK**

Model No.: **Model 921**

Date of Latest CMS Certification or Audit: **12/15/2016 (Linearity Test)**

Process Unit(s) Description: **Claus Sulfur Recovery Plant**

Total source operating time in reporting period: **4405.77 hours**

| **Emission data summary** [1] | | **CMS performance summary** [1] | |
|---|---|---|---|
| 1. Duration of excess emissions in the reporting period due to: | | 1. CMS downtime in the reporting period due to: | |
| a. Startup/shutdown | **0** | a. Monitor equipment malfunctions | **43** |
| b. Control equipment problems | **0** | b. Non-Monitor equipment malfunctions | **24** |
| c. Process problems | **0** | c. Quality assurance calibration | **6** |
| d. Other known causes | **0** | d. Other known causes | **0** |
| e. Unknown causes | **0** | e. Unknown causes | **0** |
| 2. Total duration of excess emissions | **0** | 2. Total CMS Downtime | **73** |
| 3. Total duration of excess emissions x (100) / [Total source operating time] | **0** % | 3. [Total CMS Downtime] x (100) / [Total source operating time] | **1.66** % |

Note: On a separate page, describe any changes since last quarter in CMS, process or controls. **No changes to the CMS, process, or controls have occurred since last reporting period.**

## Appendix B-UUU Deviation Summary and Corrective Actions

**Source:** SRU
**Standard:** 250 PPM SO2 12-Hr Rolling Average Limit

There were no deviations from this standard during the reporting period.

**Source:** FCCU
**Standard:** 500 PPMVD CO 1-Hr Average Limit

There were no deviations from this standard during the reporting period.

**Source:** FCCU
**Standard:** L:G Ratio ≥ 0.08 (Per November 22, 2005 AMP)

There were no deviations from this standard during the reporting period.

**Source:** Platformer
**Standard:** %97% HCl reduction with a control device; weekly average Chloride content on catalyst entering Chlorsorb ≤ 1.35% by weight and weekly average Chloride content on catalyst exiting Chlorsorb ≤ 1.8% by weight, 3 times per week on non-consecutive days during catalyst regeneration.

There were no deviations from this standard during the reporting period.

**Source:** Platformer
**Standard:** Daily Average Vet Gas Inlet Temperature ≤ 350°F

There were no deviations from this standard during the reporting period.

# Appendix C-Process Descriptions

## FCCU Process Description

The Fluidized Catalytic Cracking Unit (FCCU) is a refinery process unit used for the production of gasoline. Heavy oil, which is used as the feedstock, is catalytically cracked in a fluidized catalyst bed to produce C3 olefins, C4 olefins, and isobutanes. In the cracking reactor, heavy carbonaceous materials (coke) become deposited on the catalyst, requiring continuous regeneration. The catalyst is circulated to a fluidized bed regenerator where these deposits are combusted. Most of the catalyst particles entrained in the regenerator flue gas are then removed in two stages of cyclones within the regenerator vessel and then are returned to the fluidized bed reactor.

At the Trainer Refinery, the FCCU control devices include a CO Boiler for CO reduction, an Enhanced Selective Non-Catalytic Reduction (eSNCR) unit for $NO_x$ reduction, an electrostatic precipitator for PM reduction and a wet gas scrubber for PM and $SO_2$

## Catalytic Reforming Unit (Platformer Unit)

The refinery operates one Catalytic Reforming Unit. The purpose of the Platformer is to upgrade low octane feed sources, Heavy Naphtha and Heavy Isocrackate, into a high-octane gasoline component and hydrogen gas. The feed combined with hydrogen recycle gas is heated and passed over a platinum catalyst, where it is converted from low octane naphtha to a gasoline-blending component with a design research octane number in the range of 97 - 101.

## SRU

The Claus Sulfur Recovery Unit is designed to react feed $H_2S$ and $SO_2$ into recoverable sulfur using two trains in parallel. Normally only one train is required to be on-line. The feeds to the unit are sour water gases and acid gases from the Sour Water Stripper and the Amine Unit. Each train consists of a thermal reactor, three catalytic reactors, a steam generator and a 4 pass sulfur condenser. Medium and low-pressure steam is generated in the condensers. The sulfur product is stored in a common heated pit until shipped out by railcar.

The Scot unit is designed to treat the tail gas from both trains of the Sulfur Recovery Unit. The Scot Unit reduces the $H_2S$ content in the tail gas before it is sent to the incinerator stack. The combination of the Sulfur and Scot Units recovers about 99.8% of the sulfur in the feed streams. The Scot Unit consists of an in-line burners, catalytic reactor, quench tower, amine absorber, stripper, and incinerator.

## Bypass Lines

The FCCU does not have any bypass lines. The Platformer Chlorsorb Unit line was not bypassed during this reporting period. The Sulfur Recovery Unit line was not bypassed during this reporting period.

## Appendix D-Performance Testing Information

Monroe Energy LLC conducted only one performance test during the reporting period. The test occurred in mid-December, 2016 and Monroe Energy has yet to receive the results. They will be included in the next semi-annual report.