

M4085

M4085

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

M408532672

FACILITY: FCA US LLC - Mack Avenue Engine Plant		SRN / ID: M4085
LOCATION: 11570 WARREN E, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: C. Ben Bosah , Air Compliance Engineer		ACTIVITY DATE: 11/03/2015
STAFF: Usama Amer	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Targeted Inspection of a Major Source		
RESOLVED COMPLAINTS:		

On November 3 & 5, 2015, I conducted a targeted inspection of FCA Mack Ave. Engine Plant (MAEP), located at 4500 St. Jean, Detroit, Wayne County. The purpose of this inspection was to determine the MAEP's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and the conditions of Renewal Operating Permit (ROP) No. MI-ROP-M4085-2015. Mr. Chukwuemeka Ben Bosah, FCA Corporate Air Compliance Engineer, and Mr. Joe Saugrich, FCA EHS Lead, represented the facility during the inspection.

### PROCESS DESCRIPTION

Activities at the MAEP include engine component machining as well as assembly and testing of engines.

### COMPLAINT/COMPLIANCE HISTORY

There have been no complaints for this facility.

The most recent AQD inspection, on April 11, 2013, determined that MAEP was in compliance with the applicable federal and state regulations, and the conditions of PTI No. 261-99A, which was issued as a Title V Opt-Out permit that limited nitrogen oxide (NOx) and carbon monoxide (CO) emissions to less than 100 tons per year.

### OUTSTANDING CONSENT ORDERS

None

### OUTSTANDING VIOLATION NOTICES

None

### THE INSPECTION

During the inspection three dynamometers and two hot test stands were observed. MAEP is permitted for three dynamometers test cells (burning unleaded gasoline) and two natural gas hot test stands. During the inspection the hot stands were not in use. Exhaust gases for the two hot test stands are combined and vented through one stack.

Additionally during the inspection three cold cleaners were observed in the Cutter Grind Area. The cold cleaners use soap and water for tool cleaning. Their doors were in the closed position and instructions on operations were posted in a visible location. I reviewed the MSDS of the soap, and noticed that it did not include volatiles.

### ROP No. MI-ROP-M4085-2015

### FG-DYNOS

**DESCRIPTION:** Three engine dynamometer test cells burning unleaded gasoline.

**EMISSION UNITS:** EU-DYNO1, EU-DYNO2, EU-DYNO3

**POLLUTION CONTROL EQUIPMENT: NA**

**I. EMISSION LIMITS:**

Pollutant	Limit	Time Period/Operating Scenario
1. VOC	10.8 tpy	12-month rolling time period as determined at the end of each calendar month.
2. Benzene	0.41 tpy	12-month rolling time period as determined at the end of each calendar month.
3. 1,3-Butadiene	0.14 tpy	12-month rolling time period as determined at the end of each calendar month.
4. Formaldehyde	0.23 tpy	12-month rolling time period as determined at the end of each calendar month.
Emission Factor for VOC: 0.160 lb/gal		
Benzene, 1,3-Butadiene, and Formaldehyde emission rates are calculated by multiplying the VOC emission rate by the emission factor and a correction factor.		
Benzene: Emission Factor – 5.9 % VOC emissions Correction Factor – 0.65	1,3-Butadiene: Emission Factor – 0.54 % VOC emissions Correction Factor – 2.4	Formaldehyde: Emission Factor – 0.92 % VOC emissions Correction Factor – 2.3

- Attachment A lists the following emission rates:

Pollutant	Reported Emissions	Time Period/Operating Scenario
1. VOC	3.72 tpy for 12/14 4.33 tpy for 4/15	12-month rolling time period as determined at the end of each calendar month.
2. Benzene	0.14 tpy for 12/14 0.17 tpy for 4/15	12-month rolling time period as determined at the end of each calendar month.
3. 1,3-Butadiene	0.05 tpy for 12/14 0.06 tpy for 4/15	12-month rolling time period as determined at the end of each calendar month.
4. Formaldehyde	0.08 tpy for 12/14 0.09 tpy for 2, 4-6/15	12-month rolling time period as determined at the end of each calendar month.

**II. MATERIAL LIMITS**

1. MAEP shall burn only unleaded gasoline in FG-DYNOS.

- Attachment B is a copy of a letter from the gasoline supplier (BP Global Fuel Technology) indicating that the supplied gasoline to MAEP did not include added lead.

## FG-EMERG\_RICE

**DESCRIPTION:** Emergency equipment including three diesel fueled fire pumps (compression ignition [CI]) subject to 40 CFR 63 Subpart ZZZZ, NESHAP for Reciprocating Internal Combustion Engines (RICE).

**EMISSION UNITS:** EU-FIRE\_PUMP1, EU-FIRE\_PUMP2, EU-FIRE\_PUMP3

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS:** NA

**II. MATERIAL LIMITS:** NA

**III. PROCESS/OPERATIONAL RESTRICTIONS:**

1. MAEP shall operate and maintain any affected CI RICE, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the AQD, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

- Attachment D is a copy of the March, 2015 Field Service Report of the Semi-Annual Maintenance inspection of the above Fire Pumps. The report indicates that "All pumps (were) 100% operational and returned to service".

2. MAEP permittee shall comply with the following requirements, except during periods of startup: (40 CFR 63.6603(a))

For CI Engines: (40 CFR 63.6603(a), Table 2d Item 4

a) Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.4.

- The engines oil is changed on a semi-annual basis as shown on Attachment D.

b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.

c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

- Above 2 requirements are performed semi-annually and reported in Attachment D.

3. MAEP shall operate and maintain the stationary RICE and after-treatment control device according to the manufacturer's emission-related written instructions or develop you own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air-pollution control practice for minimizing emissions. (40 CFR 63.6625(e), 40 CFR 63.6640(a), Table 6 item 9)

- The manufacturer's emission-related written instructions on operation and maintenance are available in Attachment E.

4. MAEP may utilize an oil analysis program in order to extend the specified oil change requirement in 40 CFR 63.6603(a) and as listed in SC III.2. The oil analysis program must be performed at the same frequency as oil changes are required. The analysis program must analyze the parameters and keep records as required in 63.6625(i). (40 CFR 63.6625(i))

- The engines oil is changed on a semi-annual basis to avoid the analysis requirement. Attachment D

5. MAEP shall not allow the engine(s) to exceed 100 hours for maintenance checks and readiness

2. The unleaded gasoline usage for FG-DYNOS shall not exceed 1,152 gallons per calendar day.

- Attachment A lists the following gasoline usage data:

- a) The maximum daily usages of 238.94 gal/day was reported in 5/14
- b) The maximum daily usages of 160.6 gal/day was reported in 4/15

- Attachments B.1 and B.2 show the daily gasoline consumptions for Dynos 1, 2 and 5 for the months October, 2014 and October, 2015, respectively.

#### V. TESTING/SAMPLING:

\* Condition VI.1 stipulates that no later than December 31, 2018, MAEP shall conduct stack testing to verify and quantify the VOC, benzene, 1,3-butadiene, formaldehyde, CO and NOx emission rates from one of the following dynamometer test cells: EU-DYNO1, EU-DYNO2, or EU-DYNO3.

- MAEP is considering to conduct the above required stack testing in 2017.

#### VI. MONITORING/RECORDKEEPING

- Compliance - Attachment A includes all required information for Conditions VI.2.b - j and VI.3.

#### VIII. STACK/VENT RESTRICTIONS

- This condition was not verified during this inspection.

#### FG-HOTTESTS

DESCRIPTION: Two natural gas-fired engine hot test stands.

EMISSION UNITS: EU-HOTTEST1S, EU-HOTTEST2S

POLLUTION CONTROL EQUIPMENT: NA

#### I. EMISSION LIMITS: NA

#### II. MATERIAL LIMITS

\* Conditions II.1 and VI.2.a - MAEP shall burn only natural gas in FG-HOTTESTS and keep records, on a monthly basis, of natural gas used in million cubic feet per month and 12-month rolling time period

- Attachment C shows MAEP's natural gas usage record for these two engine hot test stands.

\* Condition II.2 - The fuel usage for FG-HOTTESTS shall not exceed 2.0 million cubic feet per year on a 12-month rolling time period as determined at the end of each calendar month.

- For the period 9/14 – 9/15, MAEP used the Hot Test South only. The monthly, and 12-month rolling time period, as determined at the end of each calendar month, natural gas usages were recorded as follows (Attachment C): 0.0008 MMCF for 10/14, 0.0001 MMCF for 11/14, 0.0017 MMCF for 3/15, 0.0008 MMCF for 4 & 5/15, 0.0004 MMCF for 8/15, and 0.0018 MMCF for 9/15.

\* Condition IV.1 - MAEP shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage of FG-HOTTESTS on a continuous basis.

- A meter to measure the natural gas flow is installed and maintained.

#### VIII. STACK/VENT RESTRICTIONS

- This condition was not verified during this inspection.

**DESCRIPTION:** Emergency equipment including three diesel fueled fire pumps (compression ignition [CI]) subject to 40 CFR 63 Subpart ZZZZ, NESHAP for Reciprocating Internal Combustion Engines (RICE).

**EMISSION UNITS:** EU-FIRE\_PUMP1, EU-FIRE\_PUMP2, EU-FIRE\_PUMP3

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS:** NA

**II. MATERIAL LIMITS:** NA

**III. PROCESS/OPERATIONAL RESTRICTIONS:**

1. MAEP shall operate and maintain any affected CI RICE, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the AQD, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

- Attachment D is a copy of the March, 2015 Field Service Report of the Semi-Annual Maintenance inspection of the above Fire Pumps. The report indicates that "All pumps (were) 100% operational and returned to service".

2. MAEP permittee shall comply with the following requirements, except during periods of startup: (40 CFR 63.6603(a))

For CI Engines: (40 CFR 63.6603(a), Table 2d item 4

a) Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.4.

- The engines oil is changed on a semi-annual basis as shown on Attachment D.

b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.

c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

- Above 2 requirements are performed semi-annually and reported in Attachment D.

3. MAEP shall operate and maintain the stationary RICE and after-treatment control device according to the manufacturer's emission-related written instructions or develop you own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air-pollution control practice for minimizing emissions. (40 CFR 63.6625(e), 40 CFR 63.6640(a), Table 6 item 9)

- The manufacturer's emission-related written instructions on operation and maintenance are available in Attachment E.

4. MAEP may utilize an oil analysis program in order to extend the specified oil change requirement in 40 CFR 63.6603(a) and as listed in SC III.2. The oil analysis program must be performed at the same frequency as oil changes are required. The analysis program must analyze the parameters and keep records as required in 63.6625(i). (40 CFR 63.6625(i))

- The engines oil is changed on a semi-annual basis to avoid the analysis requirement. Attachment D

5. MAEP shall not allow the engine(s) to exceed 100 hours for maintenance checks and readiness testing. The owner or operator may petition the AQD for approval of additional hours to be used for

2. The unleaded gasoline usage for FG-DYNOS shall not exceed 1,152 gallons per calendar day.

- Attachment A lists the following gasoline usage data:

a) The maximum daily usages of 238.94 gal/day was reported in 5/14

b) The maximum daily usages of 160.6 gal/day was reported in 4/15

- Attachments B.1 and B.2 show the daily gasoline consumptions for Dynos 1, 2 and 5 for the months October, 2014 and October, 2015, respectively.

#### V. TESTING/SAMPLING:

\* Condition VI.1 stipulates that no later than December 31, 2018, MAEP shall conduct stack testing to verify and quantify the VOC, benzene, 1,3-butadiene, formaldehyde, CO and NOx emission rates from one of the following dynamometer test cells: EU-DYNO1, EU-DYNO2, or EU-DYNO3.

- MAEP is considering to conduct the above required stack testing in 2017.

#### VI. MONITORING/RECORDKEEPING

- Compliance - Attachment A includes all required information for Conditions VI.2.b - j and VI.3.

#### VIII. STACK/VENT RESTRICTIONS

- This condition was not verified during this inspection.

#### FG-HOTTESTS

DESCRIPTION: Two natural gas-fired engine hot test stands.

EMISSION UNITS: EU-HOTTEST1S, EU-HOTTEST2S

POLLUTION CONTROL EQUIPMENT: NA

#### I. EMISSION LIMITS: NA

#### II. MATERIAL LIMITS

\* Conditions II.1 and VI.2.a - MAEP shall burn only natural gas in FG-HOTTESTS and keep records, on a monthly basis, of natural gas used in million cubic feet per month and 12-month rolling time period

- Attachment C shows MAEP's natural gas usage record for these two engine hot test stands.

\* Condition II.2 - The fuel usage for FG-HOTTESTS shall not exceed 2.0 million cubic feet per year on a 12-month rolling time period as determined at the end of each calendar month.

- For the period 9/14 – 9/15, MAEP used the Hot Test South only. The monthly, and 12-month rolling time period, as determined at the end of each calendar month, natural gas usages were recorded as follows (Attachment C): 0.0008 MMCF for 10/14, 0.0001 MMCF for 11/14, 0.0017 MMCF for 3/15, 0.0008 MMCF for 4 & 5/15, 0.0004 MMCF for 8/15, and 0.0018 MMCF for 9/15.

\* Condition IV.1 - MAEP shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage of FG-HOTTESTS on a continuous basis.

- A meter to measure the natural gas flow is installed and maintained.

#### VIII. STACK/VENT RESTRICTIONS

- This condition was not verified during this inspection.

#### FG-EMERG\_RICE

testing. The owner or operator may petition the AQD for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. (40 CFR 63.6640(f)(ii))

6. MAEP shall not allow the engine(s) to operate more than 50 hours per year for non-emergency situations, as allowed in 40 CFR 63.6640(f)(iii). (40 CFR 63.6640(f)(iii))

- A log of the hours of operations is being kept. The following hours of operations were recorded in Attachment F:

North Pump #1 – 16.2 hrs  
North Pump #2 – 13.6 hrs  
South Pump Diesel – 5.8 hrs

#### VI. MONITORING/RECORDKEEPING:

1. Must install a non-resettable hour meter if one is not already installed. (40 CFR 63.6625(f))

- An hour meter is installed. This also confirms compliance with Condition #VI.1.

2. MAEP must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. (40 CFR 63.6655(f))

3. MAEP must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency. (40 CFR 63.6655(f))

- Above 2 requirements, in addition to Conditions #VI.2 & 3, are met as shown in Attachment F.

#### V. TESTING/SAMPLING

1. If using the oil analysis program for CI Engine(s), the permittee shall test for Total Base Number, viscosity and percent water content.

- The engines oil is changed on a semi-annual basis, to avoid the analysis requirement, as shown on Attachment D.

#### IX. OTHER REQUIREMENT(S)

1. MAEP shall comply with all applicable provisions of the RICE MACT as specified in 40 CFR 63 Subpart ZZZZ.

- Above requirements are met as shown in Attachment F.

#### FG-RULE290

DESCRIPTION: Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.

POLLUTION CONTROL EQUIPMENT: NA

Emission Units: EU-HEADSUB\_LOCT, EU-HEAD\_LOCT, EU-BLOCK\_LOCT, EU-IPA, EU-MARKINGINK, EU-STA\_RTV\_400, EU-STA\_RTV\_700

- R290 requirements are met as shown in Attachment G:

In 2015, the maximum monthly VOC emission rates of 0.02 lb was reported for EU-HEADSUB\_LOCT, EU-HEAD\_LOCT; 0.32 lb for EU-BLOC\_LOCT; 456.69 lb for EU-IPA; 7.76 lb for EU-MARKINGINK; 38.57 lb for EU-STA\_RTV\_400; and 0.88 lb for EU- STA\_RTV\_700.

#### FG-GAS\_DISP

**DESCRIPTION:** This flexible group includes existing and new/reconstructed stationary gasoline dispensing facilities (GDFs) located at an area source of hazardous air pollutants (HAPs) that have a maximum monthly gasoline throughput of one of the following

1. Less than 10,000 gallons
2. At least 10,000 gallons and no more than 100,000 gallons

GDF means any stationary source which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine use solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment.

Emission Units: EU-UST1, EU-UST2

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS: NA

III. PROCESS/OPERATIONAL RESTRICTIONS:

1. Required measures for a gasoline dispensing facility (GDF) with Monthly Throughput <10,000 gallons

- Attachment H shows that the highest gasoline usages were reported as 8,617 gal/mo for May, 2014, and 9,411 gal/mo for April, 2015.

This record also shows compliance with Condition #VI.1.a.

a. MAEP must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time.

- The gasoline storage tanks are placed underground and the gasoline is transferred via piping directly to the dyno cells.

b. MAEP shall minimize gasoline spills.

c. Spills shall be cleaned up as expeditiously as practicable.

- No spill incidents were recorded thus far, but if they do, MAEP has put in place proper methods to deal with them.

d. MAEP shall cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use.

- No caps are available or needed.

e. MAEP shall minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

- MAEP is in compliance with above 2 requirements

2. Required Measures for GDF with Monthly Throughput >10,000 gallons and <100,000

a. Must comply with the requirements for GDF facilities with monthly throughput <10,000 gallons unless the tank is less than 250 gallons. (40 CFR 63.11117(a))

- In compliance - Attachment H:

The maximum monthly numbers of gallons of gasoline dispensed were reported for May, 2014 at 8,617, and 9,411 for April, 2015.

b. Must only load gasoline into storage tanks by utilizing submerged filling.

- MAEP makes sure that the gasoline loading is done directly into vehicles tanks and keeping dispensing nozzle in vehicles tanks at all times.

c. Fill pipes not meeting the submerge pipe specifications are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation for such demonstration must be made available for inspection.

- MAEP makes sure that the liquid level in the tank is always above the entire opening of the fill pipe.

3. Provide Gasoline Throughput Records upon Request by USEPA or MDEQ - Facilities are not required to submit notifications or reports, but must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

- In compliance - Attachment H

**IX. OTHER REQUIREMENTS:**

1. MAEP shall comply with all applicable provisions of the Gasoline Distribution MACT as specified in 40 CFR 63 Subpart CCCCCC.

- Basically, MAEP must comply with 40 CCR Part 63. 11116 as it has a gasoline throughput < 10,000 gal/mo. These requirements are addressed in the above paragraphs. MAEP shows compliance with this subpart.

**FG-RULE331**

**DESCRIPTION:** Various machining operations including grinding, boring, etc. utilizing various cutting oils and coolants. The processes are maintained with oil mist collectors and are exempt from permit to install (R336.1201) requirements by R336.1285(I)(vi), but subject to R336.1331 requirements.

Emission Unit: EU-RULE331\_MACH

**POLLUTION CONTROL EQUIPMENT:**

Oil mist collectors

**I. EMISSION LIMIT**

Pollutant	Limit	Time Period/ Operating Scenario
1. Particulate Matter (PM)	0.10 pounds Per 1,000 pounds of exhaust gases calculated on a dry basis	As determined through reference test method 5B at R 336.2011 or method 5C at R 336.2012

- MAEP calculations show that the PM controlled emissions are 0.02 lb Per 1,000 pounds of exhaust gases calculated on a dry basis. Attachment H.2

**III. PROCESS/OPERATIONAL RESTRICTION:**

1. NAEP shall not operate the FG-RULE331 exhaust systems unless the associated particulate control equipment is installed and operating properly. (R 336.1910)

- A total of 10 mist collectors were in operations during the inspection.

**V. TESTING/SAMPLING:**

1. Upon the request of the AQD, the permittee shall verify PM emission rates from FG-RULE331 under normal operating conditions ..... etc.

- No VE were observed during the inspection; therefore, no stack testing is required at this time.

**VI. MONITORING/RECORDKEEPING:**

1. NAEP shall implement and maintain a semi-annual or more frequent check to ensure proper operation of the control equipment for each emission per manufacturer's specifications. Any maintenance activity performed on the control device shall be recorded and kept on file which will be available to AQD upon request.

2. NAEP shall keep an updated record of all emission units subject to R 336.1331(a).

- Attachment H.1 shows compliance with these 2 requirement.

3. NAEP shall maintain on file a calculation which demonstrates that compliance with the particulate limit is achieved

- Attachment H.2 shows compliance with this requirement.

**FG-FACILITY**

**DESCRIPTION:** All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

**EMISSION UNITS:** EU-DYNO1, EU-DYNO2, EU-DYNO3, EU-HOTTEST1S, EU-HOTTEST2S, EU-HEATERS, EU-FIRE\_PUMP1, EU-FIRE\_PUMP2, EU-FIRE\_PUMP3, EU-HEADSUB\_LOCT, EU-HEAD\_LOCT, EU-BLOCK\_LOCT, EU-IPA, EU-MARKINGINK, EU-STA\_RTV\_400, EU-STA\_RTV\_700, EU-UST1, EU-UST2, EU-RULE331\_MACH

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period/ Operating Scenario			
1. NO <sub>x</sub>	93.7 tpy	12-month rolling time period as determined at the end of each calendar month.			
2. CO	244 tpy	12-month rolling time period as determined at the end of each calendar month.			
<b>Emission Factors:</b>					
<b>NO<sub>x</sub>:</b> EU-HEATERS – 100 lb/MMcf FG-DYNOS – 0.30 lb/gal FG-HOTTESTS – 2840 lb/MMcf			<b>CO:</b> EU-HEATERS – 84 lb/MMcf FG-DYNOS – 3.12 lb/gal FG-HOTTESTS – 399 lb/MMcf		

- Attachment I shows the maximum emissions as follows:

Pollutant	Reported	Time Period/			

	Rates	Operating Scenario			
1. NO <sub>x</sub>	15.2 tpy for 12/14 15.9 tpy for 4/15	12-month rolling time period as determined at the end of each calendar month.			
2. CO	79.5 tpy for 12/14 90.9 tpy for 4/15	12-month rolling time period as determined at the end of each calendar month.			

**II. MATERIAL LIMITS – Data are provided on Attachment I**

1. The natural gas usage for FG-FACILITY shall not exceed 725.3 million cubic feet per year on a 12-month rolling time period as determined at the end of each calendar month.

- The maximum natural gas usage rates for FG-FACILITY were reported at 163.3 MMCF for 11/14 and 156.9 MMCF for 2/15, based on a 12-month rolling time period as determined at the end of each calendar month.

2. The unleaded gasoline usage for FG-FACILITY shall not exceed 135,000 gallons per year on a 12-month rolling time period as determined at the end of each calendar month.

- The maximum unleaded gasoline usage rates for FG-FACILITY were reported at 64,470 gal for 12/14 and 72,716 gal for 4/15, based on a 12-month rolling time period as determined at the end of each calendar month.

**IV. DESIGN/EQUIPMENT PARAMETERS:**

1. MAEP shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage of FG-FACILITY on a continuous basis.

- Gas flow meters are installed, maintained, calibrated and read by DET Energy. Attachment J is an example of the maintenance program DTE performs on the gas flow meters.

**VI. MONITORING/RECORDKEEPING:**

1. MAEP shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month.

- Attachments A through J

2. MAEP shall keep the following information on a monthly basis for FG-FACILITY:

a) A record of the days of operation for FG-HOTTESTS.

- A log is kept at the testing machine

b) Gallons of unleaded gasoline used per month and 12-month rolling time period.

- Attachment A

c) Million cubic feet of natural gas used per month and 12-month rolling time period.

- Attachment A

d) NOx emission calculations determining the monthly emission rate in tons per calendar month.

- Attachments A and I

e) NOx emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

- Attachments A and I

f) CO emission calculations determining the monthly emission rate in tons per calendar month.

- Attachments A and I

g) CO emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

- Attachments A and I

3. MAEP shall keep, in a satisfactory manner, records of the maximum lead content in the unleaded gasoline for each delivery. Maximum lead content in fuel for each delivery can be documented using manufacturer certification or sampling and analysis conducted by the permittee.

- Attachment B

**CONCLUSION:**

At this time, MAEP appears to be in compliance with the conditions of ROP No. MI-ROP-M4085-2015 and federal and state regulations.

NAME Sam Amer

DATE 1/11/16

SUPERVISOR \_\_\_\_\_