

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

P043725543

FACILITY: Granger Energy of Pinconning, LLC		SRN / ID: P0437
LOCATION: 2403 E. Whitefeather Road, PINCONNING		DISTRICT: Saginaw Bay
CITY: PINCONNING		COUNTY: BAY
CONTACT: Dan Zimmerman , Compliance Manager		ACTIVITY DATE: 06/17/2014
STAFF: Gina McCann	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

I (glm) conducted a scheduled inspection with Granger Energy of Pinconning, LLC, (P0437) on June 17, 2014. Granger Energy of Pinconning, LLC is a gas-to-energy facility. The stationary source takes raw landfill gas from Whitefeather Landfill (N5985) and treats the gas for use as fuel in two reciprocating internal combustion engines (Caterpillar G3520C).

The landfill gas is collected at the Whitefeather facility, which is a Type II, active municipal solid waste landfill (MSW). An active gas collection system, operated by Whitefeather, removes landfill gas (LFG) by vacuum applied to the well from a blower. The LFG is then routed to the Granger facility for generation of electricity. The excess LFG or when the Granger facility is down, the gas is routed to the open air enclosed flares owned and operated by Whitefeather Landfill.

The two companies have a contractual agreement in which Whitefeather Landfill sells landfill gas to Granger Energy of Pinconning and Granger is dependent upon Whitefeather Landfill to provide landfill gas which is combusted in its two internal combustion engines. The contractual and spatial relationship of the two facilities establishes Whitefeather Landfill and Granger Energy as a single stationary source based on the definition in Michigan's Rule 336.1119(r). However, based on an agreement between the AQD and management of Whitefeather and Granger, the two facilities were issued separate State Registration Numbers and ROPs (MI-ROP-P0437-2013) in 2013.

I met with Dan Zimmerman, Compliance & Safety Officer for Granger Energy Services, Mike Schaper, Operations Support Specialist, and Robert Stewart, Site Operations Technician. We reviewed records and viewed the engines and process data in real time. At the time of my inspection all required information was available and no violations were found during the inspection.

FGICENGINES

Two CAT G3520C internal combustion engines are operated at the facility. The engines were installed on May 8, 2009. The plate IDs for Engine 1 and Engine 2 are GZJ00396 and GZJ0394 respectively with the engine hours at 43,551 and 43,502 respectively.

Performance testing verification as required per 40 CFR Part 60 Subpart JJJJ was conducted on April 3, 2014. Emission Limits and test results are presented in the table below. At the time of my inspection the engines were operating such that it meets the emission limits. Total gas flow to the plant was 761 scfm with a methane concentration of 49.6%. Individual engine operating parameters during my inspection were as follows:

Engine 1

KW Output	1134 KW
Oil Temperature	219 °F
Oil Pressure	67 psi

Engine 2

KW Output 1061 KW

Oil Temperature 201 °F

Oil Pressure 70 psi

Material limits are compared to a 12-month rolling time period as determined at the end of each calendar month. Landfill gas usage for the engines is recorded on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. Attached is a copy of the spreadsheet with 12-month rolling data for 2013 thru May 2014.

EUICEENGINE1

Pollutant	Limit	Test Results
CO	3.3 g/hp-hr	2.98
CO	16.23 pph	14.25
NOx	1.0 g/hp-hr	0.61
NOx	4.92 pph	2.93
VOC	1.0 g/hp-hr	0.20
Material Limits		
Material	Limit	Highest 12-Month Rolling January 2014 (MMscf)
Landfill Gas	565.88 MMscf	438.39

EUICEENGINE2

Pollutant	Limit	Test Results
CO	3.3 g/hp-hr	2.87
CO	16.23 pph	13.68
NOx	1.0 g/hp-hr	0.66
NOx	4.92 pph	3.16
VOC	1.0 g/hp-hr	0.16
Material Limits		
Material	Limit	Highest 12-Month Rolling January 2014 (MMscf)
Landfill Gas	565.88 MMscf	438.39

At the time of my inspection the facility was in compliance with the emission and material limits in MI-ROP-P0437-2013.

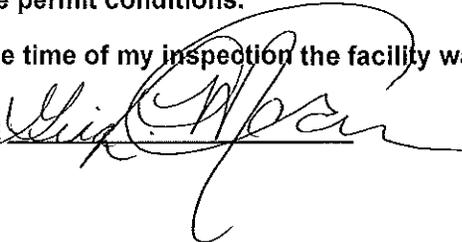
Special condition (S.C) III.2 requires the facility to implement and maintain a malfunction abatement plan (MAP). The most recent MAP on file for the facility was from 2008 Mr. Zimmerman provided the most recent update version from 2010 for the file. It appeared malfunctions are still addressed as they were in the 2008 version as no changes had been made. Mr. Stewart and I reviewed maintenance logs during the inspection. At the time of the inspection the facility was in compliance with this condition.

S.C VI. 1-8 requires monitoring and recordkeeping of landfill gas usage (monthly and 12-month rolling), kilowatt output (daily unless weekend or holiday), hours of operation (monthly and 12-month rolling), all maintenance activities per the MAP, and 40 CFR Part 60 Subpart JJJJ notifications and documentation supporting documentation. At the time of the inspection the facility was in compliance with this condition. Supporting documentation is attached.

FGRICEMACT

The facility submitted an annual report per 40 CFR 63.6500 (g) containing the following information. Fuel flow rate and heating values, operating limits provided in ROP and any deviations from these limits, as well as any problems or errors suspected from the fuel flow rate meters. The report was received on March 14, 2014. At the time of my inspection the facility was in compliance with the requirements of these permit conditions.

At the time of my inspection the facility was in compliance with MI-ROP-P0437-2013.

NAME  DATE 6/18/2014 SUPERVISOR C. Gase

Granger Electric of Pinconning, Inc. - Electric Generation Plant
Two LFG-Fired Engines - CAT G3520 C
Recordkeeping Requirements - MI-ROP-N5985-2008 and PTI 130-08A

Cell 7/14
 JMM

	Engine 1				Engine 2				Total MMscf/12-month for Engines 1 and 2		
	Hours of Operations		Power Output		Hours of Operations		Power Output		MMscf/mo	Rolling MMscf/12-month	
	hr/month	Rolling hr/12-month	KW-hr	Rolling kw-hr/12-month	hr/month	Rolling hr/12-month	KW-hr	Rolling kw-hr/12-month			
2013	January	683.00	683.00	781,461.28	781461.28	690.00	690.00	900,015.30	900015.30	33.67	33.67
	February	628.00	1311.00	788,202.80	1569664.08	662.00	1352.00	832,134.00	1732149.30	32.38	66.05
	March	748.00	2059.00	912,709.60	2482373.68	750.00	2102.00	1,015,912.50	2748061.80	39.70	105.75
	April	686.00	2745.00	784,578.20	3266951.88	690.00	2792.00	907,143.00	3655204.80	35.21	140.96
	May	735.00	3480.00	892,223.85	4159175.73	734.00	3526.00	908,354.36	4563559.16	36.94	177.90
	June	711.00	4191.00	878,440.50	5037616.23	725.00	4251.00	982,665.00	5546224.16	38.22	216.12
	July	684.00	4875.00	723,227.40	5760843.63	707.00	4958.00	955,439.80	6501663.96	37.25	253.37
	August	719.00	5594.00	843,279.15	6604122.78	719.00	5677.00	910,325.90	7411989.86	38.15	291.52
	September	744.00	6338.00	832,238.40	7436361.18	727.00	6404.00	941,646.75	8353636.61	34.49	326.01
	October	722.00	7060.00	875,722.83	8312084.01	700.00	7104.00	870,240.00	9223876.61	40.47	366.48
	November	694.00	7754.00	845,534.90	9157618.91	673.00	7777.00	838,128.96	10062005.57	35.33	401.80
	December	563.00	8317.00	735,665.10	9893284.01	595.00	8372.00	691,352.81	10753358.39	29.79	431.60
2014	January	826.00	8460.00	1,039,066.70	10150889.43	814.00	8496.00	941,521.24	10794864.33	40.46	438.39
	February	652.00	8484.00	805,978.00	10168664.63	637.00	8471.00	750,370.10	10713100.43	32.36	438.37
	March	749.00	8485.00	849,703.10	10105658.13	751.00	8472.00	857,416.70	10554604.63	35.11	433.78
	April	678.00	8477.00	734,172.30	10055252.23	703.00	8485.00	776,744.70	10424206.33	31.03	429.59
	May	714.00	8456.00	767,121.60	9930149.98	715.00	8466.00	781,066.00	10296917.97	31.11	423.76
	June		7745.00		9051709.48		7741.00		9314252.97		385.54
	July		7061.00		8328482.08		7034.00		8358813.17		348.29
	August		6342.00		7485202.93		6315.00		7448487.27		310.14
	September		5598.00		6652964.53		5588.00		6506840.52		275.65
	October		4876.00		5777241.70		4888.00		5636600.52		235.18
	November		4182.00		4931706.80		4215.00		4798471.55		199.86
	December		3619.00		4196041.70		3620.00		4107118.74		170.06

YMC
6/17/14

GRANGER ELECTRIC of Whitefeather

DAILY READINGS

DATE: 5-30-14
 TIME: 15:30
 REC. KWH: 38073
 NAME: Rob

Methane %: 50
 Oxygen %: .38
 Vacuum: -24.7
 Weekly Analyzer Callibration: 5-30-14

GAS PROCESSING

#1 ENGINE
 #2 ENGINE
 UTILITY
 Par.Load
 Facility Flow

PF	KW
992	1090
1.000	1081
999	2074
724	

gas usage

Production data
 Total
 Flare
 Generation

KSCF	MMBTU
1833310	932143
18262	9130
1815048	923013

Engine Hours
 Man Press.
 Man. Air Temp
 Eng. Cool. Temp
 Coolant Press.
 Oil Filter Diff
 Oil Pressure
 Kw
 De-rated reason:
 Fuel flow (SCFM):
 Fuel Quality (BTU):
 Eng. Oil Temp.
 Fuel Corr. Factor(%)
 Throttle Position(%)
 Mast.Bat.Voltage

#1	#2
GZ100396	GZ100394
43174	43091
33.2	33
136	140
219	214
42	39
5	5
71	70
1104	1034
Gas	Gas
367	372
460	461
217	201
95	97
51	55
235	24

Dryer Inlet Temp
 Dryer Outlet Temp
 Dryer Diff. Press
 Refergerand Mid Temp
 Coal. Filter Diff Press.
 Aft. Cooler Out Press.
 Aft. Cooler Out Temp.
 Aft. Cooler In Temp
 Aft. Cooler In Press.
 Comp. Day Tank Level
 Gas Inlet Temp
 Gas Inlet Vacuum (HG)
 Comp. Room Temp
 Gas Dryer Water Press.

MCC POWER METER	
Compactor kwh	7205
Compressor kwh	2411

Compressor Room	
<110	78
<110	76
<3	0
32-44	38
2.5<	0
<20	8
<140	90
<275	150
<20	8
0-55	30
<135	50
<30	5
60-100	70
40	40

J/W Out
 Aft.Cooler Temp.Out
 Aft.Cooler Temp.In
 J/W In
 Day Tank Level
 Fill tank to 24 gal ck.
 CV Diff. Press
 Engine Oil Level

Engine # 1	Engine # 2
225	225
146	140
120	120
175	175
4	26
26	4
.75 / .75	.75 / .75
OK ✓	OK ✓

Comp. Lubricator
 Oil/Water Sep. Level
 Scrubber Tank Level
 Sub Station Sump light

OK/NOT OK	✓ OK
OK/NOT OK	✓ OK
OK/NOT OK	✓ OK
ON/OFF	✓ OFF

*Callibrations on the methane/O2 analyzer are to be performed on a WEEKLY Basis.

6/17/14

GRANGER ELECTRIC of Whitefeather

DAILY READINGS

DATE: 1-8-14
 TIME: 1640
 REC. KWH: 35090
 NAME: Rob

Methane %: 49.3
 Oxygen %: .40
 Vacuum: -23.2

Weekly Analyzer Callibration: 12-24-13

GAS PROCESSING

#1 ENGINE
 #2 ENGINE
 UTILITY
 Par.Load
 Facility Flow

PF	KW
.991	1219
1.000	1120
.999	2274
	2230

Production data
 Total
 Flare
 Generation

KSCF	MMBTU
1676491	854497
18219	9109
1658272	845385

MCC POWER METER	
Compactor kwh	4306
Compressor kwh	

Compressor Room	
Dryer Inlet Temp	<110 70
Dryer Outlet Temp	<110 60
Dryer Diff. Press	<3 0
Refrigerand Mid Temp	32-44 36
Coal. Filter Diff Press.	2.5< 0
Aft. Cooler Out Press.	<20 9
Aft. Cooler Out Temp.	<140 140
Aft. Cooler In Temp	<275 84
Aft. Cooler In Press.	<20 9
Comp. Day Tank Level	0-55 45
Gas Inlet Temp	<135 40
Gas Inlet Vacuum (HG)	<30 20.5
Comp. Room Temp	60-100 70
Gas Dryer Water Press.	40 40

Comp. Lubricator	OK/NOT OK / OK
Oil/Water Sep. Level	OK/NOT OK / OK
Scrubber Tank Level	OK/NOT OK / OK
Sub Station Sump Iight	ON/OFF / OFF

	#1	#2
Engine	GZJ00396	GZJ00394
Hours	39435	39734
Man Press.	35.1	33.8
Man. Air Temp	127	131
Eng. Cool. Temp	221	216
Coolant Press.	412	37
Oil Filter Diff	6	5
Oil Pressure	72	72
Kw	1223	1138
De-rated reason:	Gas	Gas
Fuel flow (SCFM):	412	391
Fuel Quality (BTU):	449	448
Eng. Oil Temp.	216	201
Fuel Corr. Factor(%)	97	96
Throttle Position(%)	51.3	44.7
Mast.Bat.Voltage	23	24
	Engine # 1	Engine # 2
J/W Out	225	225
Aft.Cooler Temp.Out	130	120
Aft.Cooler Temp.In	50	60
J/W In	175	175
Day Tank Level	26	22
Fill tank to 24 gal ck.		
CV Diff. Press	.75/.75	.75/.75
Engine Oil Level	OK ✓	OK ✓

*Calibrations on the methane/O2 analyzer are to be performed on a WEEKLY Basis.

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

FCE Summary Report

Facility : Granger Energy of Pinconning, LLC	SRN : P0437
Location : 2403 E. Whitefeather Road	District : Saginaw Bay
	County : BAY
City : PINCONNING State: MI Zip Code : 48650	Compliance Status : Compliance
Source Class : MAJOR	Staff : Gina McCann
FCE Begin Date : 1/1/2012	FCE Completion Date : 6/18/2014
Comments : FCE for facility 6/8/2014. glm	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
06/17/2014	Scheduled Inspection	Compliance	
04/03/2014	Stack Test Observation	Compliance	NSPS JJJJ annual testing. glm
03/20/2014	ROP Annual Cert	Compliance	report mailed 3/14/14. Annual Compliance Certification, no deviations. glm
03/20/2014	ROP SEMI 2 CERT	Compliance	report mailed 3/14/14. Semi-Annual Report Cert. No deviations. glm
03/20/2014	MACT (Part 63)	Compliance	report mailed 3/14/14; 40 CFR 63 Subpart ZZZZ. Engines use only landfill gas for electricity generation, no other fuel source is used. Fuel for each engine averaged 430 scfm at 50% CH4. Operated in accordance with the operating limits provided in the ROP and no issues were encountered in operating the fuel flow meter. glm
03/20/2014	MAERS	Unknown	report mailed 3/14/14. MAERS submitted electronically 3/14/2014. glm

Name:

Gina McCann

Date:

6/18/2014

Supervisor:

C. Hall