

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

P042644258

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| FACILITY: ADRIAN ENERGY ASSOCIATES LLC | | SRN / ID: P0426 |
| LOCATION: 1900 NORTH OGDEN HWY, ADRIAN | | DISTRICT: Jackson |
| CITY: ADRIAN | | COUNTY: LENAWEE |
| CONTACT: Eric Biso , Lead Operator | | ACTIVITY DATE: 04/04/2018 |
| STAFF: Zachary Durham | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: Scheduled inspection of LFG-to-energy facility and MI-ROP-P0426-2014. | | |
| RESOLVED COMPLAINTS: | | |

Contact

Eric Bisco
Lead Operator
517-265-7930
adrian@ariaenergy.com

Purpose

This was a scheduled inspection of the landfill gas-to-energy facility and associated treatment equipment located at 1900 North Ogden Highway in Adrian, MI. I met with the lead operator, Eric Bisco, on 4/4/18 at about 11:00am.

Background

This facility utilizes landfill gas (LFG) to produce electricity that is put onto the grid. The gas is collected from the adjacent Adrian Landfill (SRN: N2369) and routed to the treatment system operated by Adrian Energy Associates (AEA). The gas is then routed to the three Caterpillar Model No. G3516 engines for combustion.

AEA is subject to the New Source Performance Standards (NSPS) in 40 CFR Part 60, Subpart WWW for Municipal Solid Waste (MSW) Landfills. They are also subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63, Subparts AAAA and ZZZZ for MSW Landfills and Reciprocating Internal Combustion Engines (RICE), respectively.

I last inspected this facility in June 2016.

Compliance Evaluation**EUTREATMENTSYS**

This emission unit (EU) includes conditions from NSPS WWW for MSW Landfills that AEA is responsible for, which includes the treatment system. Treatment of the LFG consists of filtering of the gas through at least a 10 micron filter. Eric indicated they have a filter rated for 5 microns installed about 5 years ago.

The primary functions of the treatment system are to remove particulate, dewater, and compress the gas stream. Attached are the most recent startup, shutdown, and malfunction (SSM) event logs and the preventative maintenance plan (PMP) recordkeeping documents. Both SSM documents indicate the event lasted for an hour or less and that SSM procedures were followed to return to proper operation. The PMP documents show daily checking for operating parameters of the treatment system and recent preventative maintenance (PM). Attached is a PM for greasing the gas blower bearings on 3/26/18.

In accordance with NSPS WWW, all LFG is routed through the treatment system before combustion. Only when the engine plant is down is LFG routed to the emergency backup flare operated by Adrian Landfill; flaring events are recorded by Adrian Landfill.

FGENGINES

This flexible group (FG) identifies the three (3) RICE engines combusting LFG to generate electricity. The engines contain emission limits for CO (21.25 pph), NOx (15.38 pph), and VOC (6.73) on a pound per hour basis, which were incorporated into the permit and verified during stack testing. Ongoing monitoring of total LFG flow, BTU content, electrical output, average heat input, hours of operation, and after cooler temperatures are used in calculations to determine emissions from FGENGINEs. Attached is a spreadsheet containing these metrics. The BTU content during February 2018 was between 449.5 – 475.0 as a lower heating value with around 50% methane.

As of the time of the inspection, the total LFG flow was recorded as 2283529 kscf to FGENGINEs with a current rate of 828 scfm. The electrical output was observed to be 1,863 kW. In the attached spreadsheet weekly emission averages are included. The most recent week from the end of February 2018 includes the following rates as combined; CO = 14.41 pph, NOx = 2.4 pph, VOC = 3.29 pph. The engines were running at about 85% capacity during the inspection.

FGRICEMACT

This is the FG that includes conditions from NESHAP ZZZZ for RICE subject to maximum achievable control technology (MACT). The facility is required to change the oil and filter every 1,440 hours or utilize an oil analysis program to extend the life of the oil. Spark plugs, belts, and hoses are also required to be inspected at least every 1,440 hours or annually. Eric indicated that oil changes occur about every 600 hours. Attached are the oil analysis records for each engine from February 2018 through the middle of March 2018. All analyses include the testing metrics under 63.6625(j) for acidity, viscosity, and water content and are shown to still be suitable for use. Maintenance records indicated other routine maintenance, including spark plug, belt and hose inspections, are conducted much more frequently than every 1,440 hours of operation.

Compliance Determination

After review of necessary recordkeeping and on site inspection, I have determined this facility to be in compliance with State of Michigan and Federal air quality rules and regulations and MI-ROP-P0426-2014.

NAME

Jack Durlan

DATE

5/8/18

SUPERVISOR

JL