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

N561944447

FACILITY: Pitsch Sanitary Landfill		**SRN / ID:** N5619
LOCATION: 7905 Johnson Rd, BELDING		**DISTRICT:** Grand Rapids
CITY: BELDING		**COUNTY:** IONIA
CONTACT: Chris Ogden , Maintenance		**ACTIVITY DATE:** 05/23/2018
STAFF: David Morgan	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On May 23, 2018, Air Quality Division staff Dave Morgan conducted a scheduled inspection at the Pitsch Sanitary Landfill (PSL) located at 7905 Johnson Road in Belding. The purpose of the visit was to determine the facility's compliance with state and federal air pollution regulations. Accompanying AQD staff on the visit was Chris Ogden, Operations Personnel. Bruce Monroe, Site Manager was not on site but provided additional information.

FACILITY DESCRIPTION

The PSL is a municipal solid waste landfill located in Belding, in Ionia County, Michigan. The facility is subject to the New Source Performance Standards (NSPS) under 40 CFR Part 60, Subpart A for flares and Subpart WWW for Municipal Solid Waste Landfills. The facility is also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) under 40 CFR Part 63, Subpart AAAA for Municipal Solid Waste Landfills and 40 CFR Part 61, Subpart M for Asbestos.

The PSL has a design capacity greater than 2.5 million cubic meters. The facility consists of solid waste disposal Cells 1 through 4 which are capped and closed, Cells 5 & 6 which are active, and Cells 7 & 8 which are permitted but not fully constructed. There is also a closed Act 87 area that began operations in 1975 and ceased operations in 1992. The company completed installation of a landfill gas collection and control system (GCCS) to control non-methane organic compound emissions (NMOC) in August 2009 to comply with Subpart WWW. Renewable Operating Permit (ROP) No. MI-ROP-N5619-2014 was issued on November 21, 2014. It is noted that the PSL accepts more construction and demolition materials than municipal solid waste which reduces its gas generation potential.

In May 2012, U.S.EPA and Pitsch entered into an Administrative Consent Order (ACO) to address NSPS requirements not being met. As part of that ACO, Pitsch had to meet the following:

- Conduct monitoring, recordkeeping, and reporting as specified by the NSPS and ROP
- Conduct testing to demonstrate current NMOC emissions from the landfill
- If all testing and emission estimates showed NMOC emissions to be below 50 Mg/yr, Pitsch could submit a periodic emission rate report every 5 years consistent with 40 CFR 60.757(b)(1)(ii).
- Pitsch could discontinue submitting the annual NMOC emission rate reports upon capping or removal of the capture and collection system and closure of the landfill pursuant to 40 CFR 60.752(b)(2)(v).

The last NMOC emission report required under the ACO was dated June 21, 2016. This report showed NMOC concentrations of 15.5 ppmv, as hexane, with total estimated NMOC emissions of less than 2.31 Megagrams/year through the year 2020, which is significantly below the 50 Mg/year collection and control threshold in the NSPS, Subpart WWW. The next NMOC emission report is due in 2020.

On March 20, 2018, USEPA, Region V Enforcement Manager for Michigan, Sara Marshall, provided a voice message to AQD staff stating that because Pitsch demonstrated NMOC emissions from the landfill to be below the threshold requiring a GCCS for the next five years and that the ACO has been satisfied, the site could continue to meet NSPS by submitting periodic NMOC emission rate reports. However, GCCS requirements are still contained in the active ROP and any changes to these requirements would need to go through the ROP modification process.

It is noted that the PSL is subject to the new Emission Guidelines promulgated under 40 CFR Part 60, Subpart Cf for Existing Municipal Solid Waste Landfills. However until a state plan is developed to implement the guidelines, the requirements of Subpart WWW apply. It is likely that PSL will be below the GCCS requirements of the new rule once a state plan is developed.

COMPLIANCE EVALUATION

(EULANDFILL>50):
In accordance with the NSPS, Subpart WWW, the company installed a GCCS consisting mainly of passive vents with spark ignition solar flares and a small active system in the Act 87 area. The GCCS was based on a design plan submitted in February 2009.

The NSPS and ROP require that the collection system be operated so that the methane concentration is less than 500 ppm above background at the surface of the landfill and that the surface methane is monitored on a quarterly basis. If a reading above 500 ppm exists, corrective actions and re-monitoring is required. A violation exists if any reading above 500 parts per million (ppm) is detected three times within a quarterly period.

Surface methane at PSL is being conducted by Monitoring Control and Compliance Inc. on a quarterly basis in accordance with the NSPS and ROP. Records of surface monitoring events include the sample date, sample location, exceedance location (if any) and analyzer calibration information. Mostly a TVA 1000 FID was used to verify surface methane during the 2017 and 2018 monitoring events. A Trimble Site FID was used for the 2nd quarter 2017 monitoring event. The sampling and calibration appeared to be conducted in accordance with USEPA Method 21. No reading above 500 ppm were detected during the quarterly monitoring events.

Records pertaining to maximum design capacity, year-to-year acceptance rate, and amount of waste in place are maintained by the company in accordance with the ROP and NSPS, Subpart WWW. This information is also reported to the MDEQ, Office of Waste Management and Radiological Protection on a quarterly basis. As of September 2017, the site had less than 2.0 million cubic yards of waste in place which is well below the permitted capacity of 4.2 million cubic yards. The 2017 MDEQ waste report shows the PSL accepted 304,479 cubic yards of waste (276,243 yd^3 was industrial/demolition/construction waste and 28,236 yd^3 was municipal consumer waste. Therefore approximately 91% of waste consisted of industrial/construction/demolition material and 9% municipal garbage. Gas generation rates are expected to be lower due to higher amounts of construction/demolition material received.

The company maintains the cover of the landfill on an as needed basis and at least on a monthly basis in accordance with the ROP.

Passive Vents (EUPASSIVECOLL) with Open Flares (EUOPENFLARE):
Currently Cells 1 through 6 have nineteen passive wells, each with its own solar vent flare, and includes two leachate collection risers vented to a single vent flare. A passive collection system is allowed under 40 CFR 60.752(b)(2)(ii)(B) provided it is installed with liners on the bottom and all sides, can handle the maximum expected gas flow rate, collects from areas where the waste is five years or older, and can minimize off-site migration. Alternate design and monitoring parameters are also allowed under EUPASSIVECOLL, Condition IX.3. No new passive wells have been installed since the last AQD inspection.

The location and density of all collection wells to control surface gas emissions was certified by a professional engineer in Pitsch's Landfill Gas Collection and Control System Design Plan dated February 2009. In addition, all collection wells are marked on an as built site map. Also in accordance with the design plan each well is constructed of HDPE material, equipped with a sampling port, positive throttle valve to shut the well down if need be, a data logger for flare operation, a solar panel to maintain the flare sparking mechanism, and a thermo-couple to monitor flare tip temperature.

EUPASSIVECOLL, Condition VI.1 requires that each interior wellhead be operated with a landfill gas temperature less than 131°F and an oxygen level less than 5% and monitored monthly. In addition, EUPASSIVECOLL, Condition VI.6 requires that the static pressure and methane content of the gas from each gas vent be monitored and recorded on a monthly basis. This monitoring was approved in the design plan and incorporated into the ROP to demonstrate proper operation of the vent flare.

The company monitors each well at the site on a monthly basis. Monthly monitoring records account for oxygen (O2) concentration, temperature, methane content, spark igniter function (Y/N), flare flame presence (Y/N) and static pressure. See attached records.

Each vertical well has a solar vent flare designed to burn landfill gas if gas flows are between 2 cubic feet per minute (cfm) and 90 cfm and if the gas quality contains methane in excess of 30% (see design plan). All vent flares contain a spark ignition system with spark plug, a thermocouple to monitor the pilot flame, and a data logger. According to Mr. Ogden, the location of the spark plug on each flare was moved closer to the flare tip.

In 2010, testing was conducted to determine the exit velocity, net heating value of the gas, and visible emissions from the 19 solar flares. The test results were submitted in July 2010 and demonstrated compliance with the applicable NSPS testing requirements.

The company conducts daily observations to ensure that the flares are operating and maintains weekly inspection records of spark plug and flare performance. It is noted that the weekly flare monitoring records show that multiple flares are not operational during any given recorded day. It is indicative of the operational issues that affect the flares, including limited gas production, low methane concentration, and lack of a pilot flame among others.

During the inspection, AQD staff and Mr. Ogden inspected each flare. At the time, flame was present on wells GW-10, GW-11, GW-23, GW-24, GW-27, PH5-Cleanout and the manhole vent on the southeast corner of the Phase II Cell. All other vent flares did not have a flame present. Mr. Ogden attempted to manually light each of these flares with a torch, however, none of them ignited.

The company continues to experience operational issues that have been identified in previous AQD inspections. These issues include methane gas quantity and quality, the ability to meet NSPS operating parameters for oxygen concentration, and keeping the control system operating when gas is present.

Active Collection System (EUACTIVECOLL):
The old Act 87 consists of two unlined closed cells; one is a Type II waste cell and the other is a Type III construction and demolition waste cell. Because the Act 87 area is unlined it could not meet the NSPS requirements for a passive system which requires a synthetic liner on the bottom and sides. Therefore an active collection system needed to be installed. The Type II waste cell (only) has four collection wells which are manifolded to a single vent flare. This system is considered active because it has an in-line blower to maintain a slight vacuum on the cell. The blower motor is powered by a deep cycle battery which is charged using a solar panel. During the inspection, well GW-1-87 was operational and a flame present.

All monthly monitoring for this emission unit is conducted in accordance with the ROP and NSPS. Again, the company continues to experience the same operational issues with EUACTIVECOLL that were discovered during previous inspections.

Start-up, Shutdown, Malfunction (SSM) Plan:
The company has a SSM plan in accordance with EUOPENFLARE, Condition IX.2. The plan was modeled from another landfill company and contains sufficient procedures to document the occurrence of startup, shutdown, and malfunction events at Pitsch. Many of the documented shutdowns and startups are due to spark plug or igniter failure. See attached records.

Reporting:
Pitsch has submitted ROP certification reports in accordance with the ROP

EUASBESTOS:
The Pitsch Sanitary Landfill actively accepts asbestos containing waste.

No visible emissions were observed from the active disposal area.

The company has a fence and natural barrier installed which deters access to the site.

AQD staff reviewed asbestos manifest records on site. The asbestos records contained the name, address and telephone number of the generator and transporter as well the amount of asbestos containing waste.

Asbestos containing waste is placed in designated areas and marked on a site map (see attached). All documentation was readily available.

No excavation activities have been conducted by PSL necessitating notification under the NESHAP.

SUMMARY
The landfill gas wells and flares at the Pitsch Sanitary Landfill continue to operate in non-conformance with ROP requirements as evidenced by the companies records. As stated earlier, an ACO between USEPA and Pitsch is intended to address ongoing noncompliance with the NSPS and ROP. Records are attached to this report.

NAME _____ DATE 6/4/18 SUPERVISOR _____