

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

M201745999

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|--|-----------------------------------|---------------------------|
| FACILITY: Sparrow Health System | | SRN / ID: M2017 |
| LOCATION: 1215 E Michigan Ave, LANSING | | DISTRICT: Lansing |
| CITY: LANSING | | COUNTY: INGHAM |
| CONTACT: Mark Craft, Director | | ACTIVITY DATE: 09/11/2018 |
| STAFF: Daniel McGeen | COMPLIANCE STATUS: Non Compliance | SOURCE CLASS: MINOR |
| SUBJECT: Unannounced, scheduled inspection of facility last inspected in 2004. | | |
| RESOLVED COMPLAINTS: | | |

Inspection done by Dan McGeen and Samantha Braman. Report written by Samantha Braman.

Safety Equipment Required: Steel-toed boots, safety glasses and earplugs.

Purpose: Unannounced, scheduled inspection for compliance with Permit Nos 294-06 and 140-03 for boilers and generators, and Ethylene Oxide Sterilizer.

Location: Sparrow Health System is located on the East side of Downtown Lansing. This is a highly populated residential area. Eastern High School is approximately 250 feet from the Utilities Building where the generators and boilers are located, and the nearest residence is approximately 300 feet.

Facility Background/Regulatory Overview: Sparrow Health System is a medical complex consisting of the Sparrow Hospital, Laboratories and Cancer Center.

Sparrow Health Systems is currently considered a minor source of air emissions. The facility operates under Permit to Install No. 294-06.

A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns. It is also considered a minor area source for Hazardous Air Pollutants (HAPs), because it was not considered to have a PTE of 10 TPY or more for a single HAP, nor to have PTE of 25 TPY or more for combined HAPs.

Inspection:

Arrived: 9:15 AM

Departed: 1:00 PM

Weather: South wind <5mph

The last inspection was done in March 2014 and no violations were noted. There have been no noted complaints for Sparrow.

There was some steam noted coming from the facility upon arrival. No odors were identified approaching the facility or surrounding the complex.

Although we arrived at 9:15AM, it wasn't until 10:15AM that someone was able to meet with us. Dan McGeen and I were greeted by Bill Degg, Manager of Facilities. He escorted us to the Utilities Building where we met Mark Craft, Director of Facilities. We conducted our inspection meeting and tour with Brent Yager, Electrical Engineering Manager, and Greg Millbauer, Stationary Engineer.

Table 1. Emission Units at Sparrow and their associated compliance status.

| No. | Emission Unit | Comp. Status |
|-----|--------------------------|----------------|
| 1 | EUBOILER1 | NC |
| 2 | EUBOILER2 | NC |
| 3 | EUBOILER3 | NC |
| 4 | EtO Sterilizer | Decommissioned |
| 5 | EUGENERATOR1 May 2007 | C |
| 6 | EUGENERATOR2 May 2007 | C |

| | | |
|----------|--------------------------------------|-----------|
| | EUGENERATOR3 May 2007 | C |
| 8 | EUGENERATOR4 May 2007 | C |
| 9 | EUGENERATOR5 October 2013 | NC |

1-3 – Boilers: Three natural gas boilers, all installed in 2006. Each 3.2 million BTU/hr. boiler has its own stack. Only boiler No. 1 was running during our inspection at a firing rate of 39%.

4 – Ethylene Oxide Sterilizer: The EtO sterilizer has since been decommissioned. Thus, Permit No. 140-03 for the EtO Sterilizer was voided on 9/18/18. Sparrow only uses low temperature and steam sterilizers now, including a hydrogen peroxide sterilizer. Rule 281(2)(i) exempt steam and hydrogen peroxide sterilizers from needing a Permit to Install.

5-9 – Generators: Generators 1-5 are diesel fired backup generators. They are run the third Thursday of every month for 30 minutes at 5AM to test working conditions. For these monthly tests, they are required to put the generators on at least 30% load. They also do a 4-hour load bank test every 36 months, which they do during the night hours. They run 3 generators for 4 hours then later run the other two for 4 hours. Each generator has its own stack. Each generator also gets a weekly visual inspection. Generators 1-5 get their oil changed and fuel filters replaced every year. Generators 1-4 got their hoses, belts, coolant and thermostats replaced at 10-year tune-up. Generators were not running during our inspection.

Concerns:

- VN for Rule 201 for installation of fifth generator without a permit.
- Installation of fifth generator has probably raised NOx Potential to Emit from 94 TPY to about 104 or 105 TPY, putting them over 100 TPY major source threshold for NOx. To resolve, facility can either apply for an opt-out permit or apply for a Renewable Operating Permit.
- VN for rain caps on boiler exhaust stacks. Special condition (SC) 1.7 states that exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.
- Question about what appeared to be a generator at ground level, next to Parking Ramp C, on the south side of Michigan Avenue. Is that a 6th generator?
- Existing generators:
 - o Based on criteria such as cylinder size, the facility may be subject to the NSPS 40 CFR Part 60 Subpart IIII.
 - o AQD does not have delegation of authority, but the facility should make themselves aware of the federal requirements which may apply under the RICE MACT 40 CFR Part 63 Subpart ZZZZ.
 - o The facility has been sent links to the EPA engine quizzes to determine which requirements under the above federal regulations apply.

Recordkeeping:

Boilers (reviewed on-site):

*Special conditions in the FGBOILERS section of this permit contains two 1.5 and two 1.6 conditions. To avoid confusion, I will distinguish them by a & b in sequential order.

1.5a: There were no visible emissions from the boilers during our inspection.

1.5b: Reviewed records of amount of fuel usage for natural gas and diesel fuel. Utilities Building has its own fuel meter, so they keep track of what they burn by subtracting each month's usage from their total yearly fuel purchase.

1.6a: Received a notification of boiler start-up on October 17, 2007.

1.6b: Viewed fuel certification from fuel supplier which verifies ultra-low sulfur content.

1.7: Non-Compliance. All stack height requirements appear to be met; however, boiler stacks have rain caps preventing them from exhausting unobstructed vertically upward.

Generators (reviewed on-site):

Special conditions 2.4 & 2.6: The operating hours on the generators are very low and do not come close to the max 2,000 hours per rolling 12 months as outlined in the permit. (See Table 2 below).

Table 2. Operating hours of Generators 1-5 according to monthly generator reports.

| | 1/18/18 | 8/16/18 | Current (as of 9/11/18) |
|--|----------------|----------------|--------------------------------|
|--|----------------|----------------|--------------------------------|

| | | | |
|-------------|-----|-----|-------|
| Generator 1 | 436 | 445 | 446 |
| Generator 2 | 377 | 387 | 388 |
| Generator 3 | 349 | 359 | 360 |
| Generator 4 | 335 | 345 | 346.5 |
| Generator 5 | 181 | 191 | 192.8 |

2.5: Viewed fuel certification from fuel supplier which verifies ultra-low sulfur content.

2.3b: All stack height requirements appear to be met.

Summary: Facility is not in compliance with all applicable state air regulations. A violation notice will be sent to Sparrow for the installation of Generator No. 5 without applying for a Permit to Install (PTI). Sparrow was currently operating as a minor source with a NOx emission rate of 94 tons per year. The addition of this fifth generator will likely put them over the 100 tons per year maximum emission rate for minor sources; thus, resulting in Sparrow becoming a major source. A second violations notice will be sent due to the rain caps on the boiler stacks which are preventing gases from being discharged unobstructed vertically upwards. To resolve these violations, Sparrow will have to apply for an opt-out permit or apply for a Renewable Operating Permit and remove the rain caps from the boiler stacks.

NAME *James Hank Beason* DATE *10/22/18* SUPERVISOR *R.M.*

