

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

N572425389

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|---|----------------------------|---------------------------|
| FACILITY: CITY OF ST. LOUIS | | SRN / ID: N5724 |
| LOCATION: 412 N. MILL ST., SAINT LOUIS | | DISTRICT: Lansing |
| CITY: SAINT LOUIS | | COUNTY: GRATIOT |
| CONTACT: Kurt R. Giles, Director of Public Services | | ACTIVITY DATE: 05/15/2014 |
| STAFF: Michelle Luplow | COMPLIANCE STATUS: Pending | SOURCE CLASS: SM 208A |
| SUBJECT: Scheduled compliance inspection | | |
| RESOLVED COMPLAINTS: | | |

Inspected by: Michelle Luplow
Personnel Present: Jeff Fisher, Facilities Lineman
Send inspection report to: Kurt Giles, Director of Public Services (kgiles@stlouismi.com)

Purpose: Conduct an unannounced, scheduled compliance inspection by determining compliance with City of St. Louis' Permits to Install (PTI) Nos. 546-95 and 546-95A.

Facility Background/Regulatory Overview: The City of St. Louis is a 208a registered source that has 6 electric generators that are used as backup in instances where the local power plant is not able to generate enough electricity to meet demand (peak shaving), and they are occasionally run to keep them in good working condition.

The City of St. Louis sent the AQD Technical Programs unit a test plan to test all 6 engines as required by the area source NESHAP Subpart ZZZZ for emergency engines constructed prior to June 12, 2006. Tests will be conducted for CO emissions and are planned for June 6-9, 2014. The State of Michigan currently does not have the delegated authority to enforce the area source NESHAP ZZZZ at this time.

Equipment located onsite

| Engine # (permit engine #) | HP (documented onsite) | Fuel | PTI No. | Federal Regulation |
|-------------------------------|---------------------------|----------------------|---------|--------------------|
| 1 (1) | 1920 | Natural gas & diesel | 546-95 | NESHAP ZZZZ – area |
| 2 (2) | 1000 | Diesel only | 546-95 | NESHAP ZZZZ – area |
| 3 (3) | 1400 | Diesel only | 546-95 | NESHAP ZZZZ – area |
| 7 (4) | 1600 | Natural gas & diesel | 546-95 | NESHAP ZZZZ – area |
| 8 (8) | 1920 | Diesel only | 546-95A | NESHAP ZZZZ – area |
| 9 (9) | 2095 | Diesel only | 546-95A | NESHAP ZZZZ – area |

Inspection: This was an unannounced compliance inspection. At approximately 12:30 p.m. May 15, 2014 I met with Jeff Fisher, Facilities Lineman. J. Fisher showed me each of the engines. Units 1, 2, 3, and 7 are housed in the main building, units 8 & 9 are housed in a detached building located onsite. None of the engines were running during the inspection. In the 2013 MAERS reporting, engines 1 and 7 were noted not to have burned natural gas.

Kurt Giles, Director of Public Services was not available to meet us. A DEQ "Environmental Inspections: Rights and Responsibilities" brochure was left at St. Louis City Hall to be delivered directly to Kurt Giles' inbox.

PTI No. 546-95 – Engine units 1, 2, 3, 7

The permit limits the use of diesel fuel from all 4 units to 131,847 gallons per 12-month rolling year. According to the 2013 MAERS report, a total of 467 gallons of diesel fuel was used in 2013; however, according to the 12-month rolling diesel fuel usages per engine (see attached), the total diesel fuel consumption for these four engines is 1420 gallons from May 2013 – April 2014. Regardless of this discrepancy, the City of St. Louis is in compliance with this material limit.

The permit also limits the amount of natural gas burned from the dual-fuel units 1 & 7 to a combined total of 13,267,000 ft³/year, based on a 12-month rolling average. According to both the 2013 MAERS submittal and the totals reported between May 2013 and April 2014, no natural gas was used in 2013. The City of St. Louis is in

compliance with this material limit.

Total NOx from units 1, 2, 3 and 7 are limited to 80.0 tons per year, NOx from unit 7 only is limited to 39.0 tons per year. According to the 2013 MAERS report, the total NOx emissions in 2013 from all engines (1, 2, 3, 7, 8 & 9) was 204.6 lbs (0.1 tons), and the 12-month rolling May 2013 – April 2014 NOx emissions per City of St. Louis records (attached), for units 1, 2, 3, and 7 was 606.6 lbs (0.3 tons). The 12-month rolling NOx emissions from unit 7 only was 0.1 tons. The City of St. Louis is in compliance with both NOx emission limits based on the 2013 MAERS report and based on the facility's records. Pounds per hour and grams/brake hp-hour NOx emission rates, per file review, have not been determined: there are no records that a stack test has taken place.

Total CO from units 1, 2, 3 and 7 are limited to 4.3 tons per year. The 2013 MAERS report shows 54.2 lbs of CO were emitted from all engines (1, 2, 3, 7, 8, 9). CO emissions are significantly lower than allowable limits, even with the inclusion of units 8 and 9. The City of St. Louis is in compliance with CO limits.

J. Fisher said that approximately 2 weeks prior to the date of inspection the City of St. Louis installed new DOC/Silencers and exhaust stacks on units 1, 7, 8 and 9. Engines 8 and 9 do not have stack requirements. Engines 1 and 7 are required to have stack heights of 39' and diameters of 20" and 18", respectively. Based on the diagrams of each silencer/stack provided by K. Giles (see attached), the outside diameters of exhaust stacks 1 and 7 are 20.1 inches and 18.1 inches in diameter, respectively. According to the diagrams, the total height of the stack from silencer to exhaust stack is 34' for both engines. The permit requires a stack height of 39'. A future site visit will be conducted to determine if there are other elevations involved that may bring the stack height from ground level to 39'.

The permit limits the engine's potential to emit by limiting the amount of fuel that can be burned per hour. K. Giles provided me with the capacities for engines 1 & 7 (see following table). Engines 2 and 3 did not run from May 2013 – April 2014. City of St. Louis is in compliance with hourly fuel usage limits.

| | Limit Natural Gas (ft ³ /hr) | Natural gas usage capacity (ft ³ /hr) | Limit Diesel (gallons/hr) | Diesel usage capacity (gallons/hr) |
|----------|--|---|------------------------------|---------------------------------------|
| Engine 1 | 12,498 | 10,000 | 100 | 75 |
| Engine 7 | 10,525 | 8,500 | 84 | 65 |

PTI No. 546-95A – Engine units 8 & 9

The City of St. Louis is limited to 39 tons/year NOx for engines 8 and 9. From May 2013 – April 2014, the City of St. Louis emitted 126.9 lbs of NOx from engines 8 and 9. The City of St. Louis is therefore in compliance with their NOx limits.

K. Giles provided me with a spec sheet (see attached) for the diesel fuel (Amoco Premier Diesel Fuel, Low Sulfur) used in all 6 of the engines. According to the specifications, the fuel contains no more than 0.05 wt% sulfur. The permit limits the annual average sulfur content of the fuel to 0.2 wt%. The City of St. Louis is in compliance with this condition.

The permit limits the amount of diesel fuel that can be combusted to 182,580 gallons per 12-month rolling time period. According to the fuel usage documents for 12-month rolling time period May 2013 – April 2014, 297 gallons of diesel fuel were combusted between engines 8 and 9, as determined at the end of each calendar month. The City of St. Louis is in compliance with this material limit.

208a Compliance

City of St. Louis, as a 208a source, must remain under 50 tons of NOx and 50 tons of CO per year. Permit conditions limit NOx and CO below these 208a thresholds, which the City of St. Louis is in compliance with, and therefore is in compliance as a 208a source.

Based on this inspection, the City of St. Louis is in compliance with all state and federal regulations at this time. Full compliance of stack heights for engines 1 and 7 will be determined at a later time

NAME Mickly Lynn DATE 6-16-14 SUPERVISOR [Signature]