

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

September 7, 2017

PERMIT TO INSTALL
55-17

ISSUED TO
McLaren Flint Hospital

LOCATED AT
401 South Ballenger Highway
Flint, Michigan

IN THE COUNTY OF
Genesee

STATE REGISTRATION NUMBER
D3699

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:

August 29, 2017

DATE PERMIT TO INSTALL APPROVED:

September 7, 2017

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

Table of Contents

| Section | Page |
|---|-------------|
| Alphabetical Listing of Common Abbreviations / Acronyms | 2 |
| General Conditions | 3 |
| Special Conditions | 5 |
| Emission Unit Summary Table..... | 5 |
| Special Conditions for EUBOILER03..... | 5 |
| Flexible Group Summary Table | 8 |
| Special Conditions for FGFACILITY | 8 |
| Appendix A..... | 10 |

Common Abbreviations / Acronyms

| Common Acronyms | | Pollutant / Measurement Abbreviations | |
|---------------------------|--|--|---|
| AQD | Air Quality Division | acfm | Actual cubic feet per minute |
| BACT | Best Available Control Technology | BTU | British Thermal Unit |
| CAA | Clean Air Act | °C | Degrees Celsius |
| CAM | Compliance Assurance Monitoring | CO | Carbon Monoxide |
| CEM | Continuous Emission Monitoring | CO _{2e} | Carbon Dioxide Equivalent |
| CFR | Code of Federal Regulations | dscf | Dry standard cubic foot |
| COM | Continuous Opacity Monitoring | dscm | Dry standard cubic meter |
| Department/ department | Michigan Department of Environmental Quality | °F | Degrees Fahrenheit |
| EU | Emission Unit | gr | Grains |
| FG | Flexible Group | HAP | Hazardous Air Pollutant |
| GACS | Gallons of Applied Coating Solids | Hg | Mercury |
| GC | General Condition | hr | Hour |
| GHGs | Greenhouse Gases | HP | Horsepower |
| HVLP | High Volume Low Pressure* | H ₂ S | Hydrogen Sulfide |
| ID | Identification | kW | Kilowatt |
| IRSL | Initial Risk Screening Level | lb | Pound |
| ITSL | Initial Threshold Screening Level | m | Meter |
| LAER | Lowest Achievable Emission Rate | mg | Milligram |
| MACT | Maximum Achievable Control Technology | mm | Millimeter |
| MAERS | Michigan Air Emissions Reporting System | MM | Million |
| MAP | Malfunction Abatement Plan | MW | Megawatts |
| MDEQ | Michigan Department of Environmental Quality | NMOC | Non-methane Organic Compounds |
| MSDS | Material Safety Data Sheet | NO _x | Oxides of Nitrogen |
| NA | Not Applicable | ng | Nanogram |
| NAAQS | National Ambient Air Quality Standards | PM | Particulate Matter |
| NESHAP | National Emission Standard for Hazardous Air Pollutants | PM ₁₀ | Particulate Matter equal to or less than 10 microns in diameter |
| NSPS | New Source Performance Standards | PM _{2.5} | Particulate Matter equal to or less than 2.5 microns in diameter |
| NSR | New Source Review | pph | Pounds per hour |
| PS | Performance Specification | ppm | Parts per million |
| PSD | Prevention of Significant Deterioration | ppmv | Parts per million by volume |
| PTE | Permanent Total Enclosure | ppmw | Parts per million by weight |
| PTI | Permit to Install | psia | Pounds per square inch absolute |
| RACT | Reasonable Available Control Technology | psig | Pounds per square inch gauge |
| ROP | Renewable Operating Permit | scf | Standard cubic feet |
| SC | Special Condition | sec | Seconds |
| SCR | Selective Catalytic Reduction | SO ₂ | Sulfur Dioxide |
| SNCR | Selective Non-Catalytic Reduction | TAC | Toxic Air Contaminant |
| SRN | State Registration Number | Temp | Temperature |
| TEQ | Toxicity Equivalence Quotient | THC | Total Hydrocarbons |
| USEPA/EPA | United States Environmental Protection Agency | tpy | Tons per year |
| VE | Visible Emissions | µg | Microgram |
| | | µm | Micrometer or Micron |
| | | VOC | Volatile Organic Compounds |
| | | yr | Year |

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

| Emission Unit ID | Emission Unit Description (Process Equipment & Control Devices) | Installation Date / Modification Date | Flexible Group ID |
|--|---|--|--------------------------|
| EUBOILER03 | Cleaver-Brooks Springfield, model D-34, natural gas and fuel oil fired boiler rated at 25.4 MM BTU/hr heat input. | 1992 | NA |
| Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290. | | | |

The following conditions apply to: EUBOILER03

DESCRIPTION: Cleaver-Brooks Springfield, model D-34, natural gas and fuel oil fired boiler rated at 25.4 MM BTU/hr heat input.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

| Pollutant | Limit | Time Period / Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|--------------------|--------------|--|------------------|--|---|
| 1. NO _x | 9.92 tpy | 12-month rolling time period as determined at the end of each calendar month | EUBOILER03 | SC VI.2 | 40 CFR 52.21 (c) & (d) |

II. MATERIAL LIMITS

- 1 The natural gas usage for EUBOILER03 shall not exceed 180,000,000 standard cubic feet per 12-month rolling time period as determined at the end of each calendar month. **(40 CFR 52.21 (c) & (d))**
2. The permittee shall burn only diesel fuel in EUBOILER03 with the maximum sulfur content of 15 ppm (0.0015 percent). **(R 336.1205(1)(a) and (3), 40 CFR 60.42c(d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall burn only natural gas or diesel fuel (No. 2 fuel oil) in EUBOILER03. **(R 336.1225)**
2. The permittee shall burn fuel oil only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year for EUBOILER03. **(40 CFR 63.11195(e))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage in EUBOILER03 in standard cubic feet. **(R 336.1205(1)(a), 40 CFR 52.21 (c) & (d))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations per Appendix A or in an alternative format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, 40 CFR 52.21(c) & (d))**
2. The permittee shall keep, in a satisfactory manner, monthly and 12 month rolling time period, NO_x emission calculation records for EUBOILER03, as required by SC I.1. The permittee shall keep all records on file at a location approved by the AQD district supervisor and make them available to the Department upon request. **(40 CFR 52.21 (c) & (d))**
3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period, natural gas fuel usage records for EUBOILER03, as required by SC II.1. The permittee shall keep all records on file at a location approved by the AQD district supervisor and make them available to the Department upon request. **(40 CFR 52.21 (c) & (d))**
4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUBOILER03, demonstrating that the fuel meets the requirements of 40 CFR 60.42c(d). The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(40 CFR 60.42c(d))**
5. The permittee shall maintain a record indicating all fuels that have been used in EUBOILER03 in the past five years. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) and (3), R 336.1225, 40 CFR 63.11195(e))**
6. If diesel fuel is used in EUBOILER03 during a natural gas shortage or curtailment, the permittee shall keep records from the natural gas utility to document the shortage or curtailment. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 63.11237)**
7. The permittee shall keep records of any time period when solid or liquid fuels, as defined in 40 CFR 63.11195, are combusted in EUBOILER03. This record shall indicate the type of fuel used, reason for use, time of use, and the duration in hours. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 63.11195)**
8. The permittee shall keep, in a satisfactory manner, calendar year records of the total number of hours that EUBOILER03 operated burning liquid fuel for purposes of periodic testing, maintenance, or operator training. The permittee shall keep all records on file at a location approved by the AQD district supervisor and make them available to the Department upon request. **(40 CFR 63.11195(e))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EUBOILER03.
(40 CFR Part 60 Subparts A & Dc)

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

| Flexible Group ID | Flexible Group Description | Associated Emission Unit IDs |
|--------------------------|--|-------------------------------------|
| FGFACILITY | All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment. | |

The following conditions apply Source-Wide to: FGFACILITY

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

| Pollutant | Limit | Time Period / Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|--------------------|--------------|---|------------------|------------------------------------|---|
| 1. CO | 65 tpy* | 12-month rolling time period as determined at the end of each calendar month. | FGFACILITY | SC VI.1 | R 336.1205(1)(a) and (3) |
| 2. NO _x | 86 tpy* | 12-month rolling time period as determined at the end of each calendar month. | FGFACILITY | SC VI.1 | R 336.1205(1)(a) and (3) |

*To establish the source-wide potential to emit of FGFACILITY for PTI 55-17, emissions from all equipment in FGFACILITY were included in the calculations. The potential emissions from boilers at the facility were calculated using fuel restrictions in EUBOILER03, the equipment capacity and diesel fuel restriction in FGFACILITY, and emissions from emergency engines were calculated at 500 hrs/yr. For all other exempt equipment, the potential emissions of CO and NO_x were calculated based on each piece of equipment operating at its maximum capacity for all hours of the year.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not burn diesel fuel (No. 2 fuel oil) for more than 500 hours per 12-month rolling time period in any of the boilers as determined at the end of each calendar month. **(R 336.1205(1)(a) and (3))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period, CO and NO_x emission calculation records for FGFACILITY, as required by SC I.1 and SC I.2. The permittee shall complete the calculations per Appendix A or in an alternative format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month. The permittee shall keep all records on file at a location approved by the AQD district supervisor and make them available to the Department upon request. **(R 336.1205(1)(a) and (3))**
2. The permittee shall keep records of the total number of hours that each boiler at the facility is operated using diesel fuel for each month and 12-month rolling time period. These records shall include the justification for operating using diesel fuel. The permittee shall keep records on file at a location approved by the AQD district supervisor for at least five years and make them available to the Department upon request. **(R 336.1205(1)(a) and (3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

APPENDIX A Emissions Calculations

The permittee shall demonstrate compliance with emission limits by performing emissions calculations using the format below or an alternative acceptable to the AQD District Supervisor:

Boiler Emissions

Annual emissions from natural gas (tons) = (Annual natural gas usage, MM scf) * (Emission factor, lbs/MM scf) * (ton/2,000 lbs)

Annual emissions from diesel (tons) = (Annual diesel fuel usage, hrs) * (Emission factor, lbs/MM Btu) * (0.138 MM Btu/gal diesel) * (Diesel consumption rate, gal/hr) * (ton/2,000 lbs)

Emergency Generator Emissions

Annual emissions from diesel (tons) = (Annual diesel fuel usage, hrs) * (Emission factor, lbs/MM Btu) * (Diesel consumption rate, gal/hr) * (ton/2,000 lbs)

Miscellaneous Natural Gas-Fired Equipment

Annual emissions from natural gas (tons) = (Annual natural gas usage, MM scf) * (Emission factor, lbs/MM scf) * (ton/2,000 lbs)

The permittee shall use emission factors contained in the most recent AP-42 (Compilation of Air Pollutant Emission Factors) or the most recent FIRE (Factor Information Retrieval) database if vendor or stack testing data is not available. If emission factors from other sources are used, the permittee shall obtain the approval of the AQD District Supervisor before using the emission factors to calculate emissions.