

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

September 23, 2019

PERMIT TO INSTALL
60-19

ISSUED TO
Michigan Department of Technology, Management and Budget (DTMB)

LOCATED AT
7432 Parsons Drive
Dimondale, Michigan

IN THE COUNTY OF
Eaton

STATE REGISTRATION NUMBER
P0152

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. 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: July 26, 2019	
DATE PERMIT TO INSTALL APPROVED: September 23, 2019	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

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

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

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 Environment, Great Lakes, and Energy, 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 Rule 210 (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 Rule 219 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 Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(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 Rule 301, 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 Rule 303 (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 Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT 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 (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBOILER1	A natural gas-fired boiler with fuel oil backup during natural gas curtailment. The boiler is equipped with flue gas recirculation and has a maximum heat input capacity of 83.7 MMBTU/hr.	September 2019	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 336.1291.

**EUBOILER1
EMISSION UNIT CONDITIONS**

DESCRIPTION

A natural gas-fired boiler with fuel oil backup during natural gas curtailment. The boiler is equipped with flue gas recirculation and has a maximum heat input capacity of 83.7 MMBTU/hr.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Flue gas recirculation to control NOx emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. CO	14.6 tpy ^a	12-month rolling time period, as determined at the end of each calendar month	EUBOILER1	SC V.1, SC VI.1, SC VI.2, SC VI.3	R 336.1205(3)
2. NOx	15.2 tpy ^a	12-month rolling time period, as determined at the end of each calendar month.	EUBOILER1	SC V.1, SC VI.1, SC VI.2, SC VI.3	R 336.1205(3)

^a The limits are based on natural gas emission factors of 0.037 lb CO per MMBTU and 0.036 lb NO_x per MMBTU; and distillate fuel oil emission factors of 0.058 lb CO per MMBTU and 0.096 lb NO_x per MMBTU.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Sulfur in Distillate Fuel Oil	0.05 percent	Instantaneous	EUBOILER1	SC VI.4	40 CFR 60.42c(d), 40 CFR 60.43c(e)(4)
2. Distillate Fuel Oil	303,261 gallons/yr ^a	12-month rolling time period, as determined at the end of each calendar month	EUBOILER1	SC VI.2, SC VI.5	R 336.1205(1)(a) & (3)
3. Distillate Fuel Oil	48 hours/yr ^b	Calendar Year	EUBOILER1	SC VI.2, SC VI.5	R 336.1205(1)(a) & (3)
4. Natural gas	714.6 million cubic feet/yr	12-month rolling time period, as determined at the end of each calendar month	EUBOILER1	SC VI.1, SC VI.5	R 336.1205(1)(a) & (3)

^a This limit is applicable only during periods of natural gas curtailment.

^b Only during performance testing, maintenance, or operator training.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not burn liquid fuel in EUBOILER1 except for the following circumstances: **(40 CFR 63.11237)**
 - a) Periodic testing of liquid fuel, maintenance, or operator training.
 - b) Periods of gas curtailment or supply interruptions as defined below:
 - i. Periods of gas curtailment or supply interruption mean periods of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the permittee.
 - ii. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of the permittee for the purposes of this definition.
 - iii. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption.
 - iv. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the permittee.
2. The permittee shall not operate EUBOILER1 unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 180 days of initial startup, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1910, R 336.1911, 40 CFR 60.47c(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER1 shall not exceed a maximum of 83.7 MMBTU per hour on a fuel heat input basis. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**
2. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, a device to monitor and record the natural gas used in EUBOILER1 on a monthly basis. **(R 336.1205(1)(a) & (3))**
3. The permittee shall not operate EUBOILER1 unless the flue gas recirculation system is installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining the air pollution control equipment in accordance with SC III.2. **(R 336.1205(1)(a) & (3), R 336.1910)**

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify NO_x and CO emission factors used to calculate emissions from EUBOILER1, by testing at the owner's expense, in accordance with Department requirements. If a test has been conducted, any resulting increase in an emission factor shall be implemented to calculate NO_x and CO. Testing shall be performed using an approved EPA Method listed below:

Pollutant	Test Method Reference
NO _x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep natural gas usage records, in a format acceptable to the AQD District Supervisor, indicating the amount of natural gas combusted on a monthly and 12-month rolling time period, in million cubic feet per year. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1702(a), 40 CFR 60.48c(g)(2))**
2. The permittee shall keep distillate fuel oil usage records, in a format acceptable to the AQD District Supervisor, indicating the reason for burning distillate oil, the amount of distillate oil combusted on a monthly and 12-month rolling time period, in gallons per year. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1702(a), 40 CFR 60.48c(g)(2))**
3. The permittee shall calculate and keep, in a satisfactory manner, monthly and 12-month rolling NO_x and CO mass emission records for EUBOILER1, according to the method in Appendix A and as required by SC I.1 and SC 1.2. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3))**
4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of distillate fuel oil used in EUBOILER1, demonstrating the fuel sulfur content meets the requirement of 40 CFR 60.48c(f). The certification or test data shall include the name of the distillate fuel oil supplier or laboratory, and the sulfur content of the distillate fuel oil. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 60.48c(f))**
5. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
 - a) Compliance tests and any testing required under the special conditions of this permit.
 - b) Monitoring data.
 - c) Verification of heat input capacity required to show compliance with SC IV.1.
 - d) Identification, type and the amounts of fuel combusted in EUBOILER1 on a calendar month basis.
 - e) All records required by 40 CFR 60.7 and 60.49b.
 - f) All calculations or documents necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the Air Quality Division and shall be consistent with the requirements of 40 CFR 60.7(f). The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1702(a), R 336.1912, 40 CFR 52.21(c) & (d), 40 CFR 60.7(f), 40 CFR 60.48c(g) & (i))**

VII. REPORTING

1. The permittee shall provide written notification of the date construction commences and actual startup of EUBOILER1, in accordance with 40 CFR 60.7 and 60.48c. The notification shall include the design heat input, an identification of the fuels to be combusted, and the annual capacity factor for EUBOILER1. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(R 336.1201(7)(a), R 336.1216(1)(a)(v), 40 CFR 60.7, 40 CFR 60.48c(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER1	36	67	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

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 EUBOILER1. **(40 CFR Part 60 Subparts A & Dc)**

APPENDIX 1 Procedures for Calculating NO_x and CO Emissions

The permittee shall demonstrate compliance with the NO_x and CO emission limits by keeping track of all fuels burned in EUBOILER1 and multiplying that fuel usage by an equipment-specific emission factor. The emission factors are typically expressed as the mass of pollutant per unit of fuel.

The permittee shall use emission factors from vendor data or from source specific testing (stack testing), as available for EUBOILER1. The permittee shall document the source of each emission factor used in the calculations. The following calculations shall be used, or other method as approved by the AQD District Supervisor:

Natural Gas	Fuel Oil
$E_A = \sum E_m$	$E_A = \sum E_m$
Where E _A = Annual Emissions (tpy);	Where E _A = Annual Emissions (tpy);
$E_m = C_{MMCF} \times EF_{MMCF} / 2,000 \text{ lb/ton}$	$E_m = C_{gal} \times EF_{gal} / 2,000 \text{ lb/ton}$
E _m = Monthly Emissions (tons/month)	E _m = Monthly Emissions (tons/month)
C _{MMCF} = Monthly Natural Gas Usage (MMCF/month)	C _{gal} = Monthly Fuel Oil Usage (gallons/month)
EF _{MMCF} = emission factor (lb/MMCF) = EF _{MMBtu} × FHV	EF _{gal} = emission factor (lb/gal) = EF _{MMBtu} × FHV
EF _{MMBtu} = emission factor (lb/MMBtu)	EF _{MMBtu} = emission factor (lb/MMBtu)
FHV = Fuel Heat Value (1,026 MMBtu/MMcf)	FHV = Fuel Heat Value (138,000 Btu/gal)