

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

March 14, 2012

**PERMIT TO INSTALL
11-12**

ISSUED TO
MDOC Lakeland Correctional Facility

LOCATED AT
141 First Street
Coldwater, Michigan

IN THE COUNTY OF
Branch

STATE REGISTRATION NUMBER
K2087

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:

January 26, 2012

DATE PERMIT TO INSTALL APPROVED:

March 14, 2012

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British thermal unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO _x	Oxides of nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than or equal to 10 microns aerodynamic diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch, absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch, gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO ₂	Sulfur dioxide
SC	Special Condition	THC	Total hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile organic compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (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
EUBOILER1	Heat Input Capacity: 48 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil maximum Oil Fire Rate: 343 gallons/hour	1985	FGBOILERS
EUBOILER2	Heat Input Capacity: 48 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil maximum Oil Fire Rate: 343 gallons/hour	1985	FGBOILERS
EUBOILER3	Heat Input Capacity: 48 MMBtu/hour Fuel: Natural Gas and No. 2 Fuel Oil maximum Oil Fire Rate: 343 gallons/hour	1985	FGBOILERS
EUGENERATOR1	Onan 100 kW oil fired mobile emergency generator	1985	FGGENERATORS
EUGENERATOR2	Kohler 85 kW oil fired mobile emergency generator	1970	FGGENERATORS
EUGENERATOR3	Kohler 85 kW oil fired mobile emergency generator	1970	FGGENERATORS
EUGENERATOR4	Onan 230 kW oil fired stationary emergency generator	1995	FGGENERATORS
EUGENERATOR5	Caterpillar 750 kW oil fired stationary emergency generator	1996	FGGENERATORS
EUGENERATOR6	Cummins 175 kW oil fired stationary emergency generator	1987	FGGENERATORS

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.

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
FGBOILERS	Three gas/oil fired boilers	EUBOILER1, EUBOILER2, EUBOILER3
FGGENERATORS	Six emergency generators. Maximum combined total oil usage = 58 gph	EUGENERATOR1 EUGENERATOR2 EUGENERATOR3 EUGENERATOR4 EUGENERATOR5 EUGENERATOR6

The following conditions apply to: FGBOILERS

DESCRIPTION: Three (3) dual-fuel boilers, each with a heat Input Capacity of 48 MMBtu/hour. Fuels are natural gas and No. 2 fuel oil. Nominal maximum oil fire rate is 343 gallons/hour for each boiler.

Emission Units: EU-Boiler-2, EU-Boiler-3, and EU-Boiler-4

POLLUTION CONTROL EQUIPMENT: Dual-fuel low NOx burners.

I. EMISSION LIMITS NA

II. MATERIAL LIMITS

1. The permittee shall only burn natural gas or distillate oil in FGBOILERS. **(R 336.1205(1)(a) & (3))**
2. The sulfur content of the fuel oil shall not exceed 0.50 percent by weight. **(R 336.1205(1)(a) & (3), R 336.1401)**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not burn more than 2,000,000 gallons of distillate oil in FGBOILERS per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205)**
2. The permittee shall obtain the following information from the fuel oil supplier for each shipment of fuel oil for FGBOILERS:
 - a. The name of the oil supplier;
 - b. A certification from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41(c):

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975.
 - c. The sulfur content of the oil.
(R 336.1205(1)(a) and (3))

IV. DESIGN/EQUIPMENT PARAMETERS NA

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 in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3))**
2. The permittee shall maintain a complete copy of the sulfur content, as supplied by the fuel oil vendor, for each shipment of fuel used in each boiler in FGBOILERS. **(R 336.1205(3))**
3. The permittee shall keep, in a satisfactory manner, a log of the monthly and 12-month rolling time period amount of distillate oil burned, in gallons, in FGBOILERS. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205)**

VII. REPORTING NA

VIII. STACK/VENT RESTRICTIONS NA

IX. OTHER REQUIREMENTS NA

The following conditions apply to: FGGENERATORS

DESCRIPTION: Existing six emergency power generators Each is powered by a diesel fuel fired reciprocating internal combustion engine. The generators are used for emergency power generation.

Emission Units: EUGENERATOR1, EUGENERATOR2, EUGENERATOR3, EUGENERATOR4, EUGENERATOR5, EUGENERATOR6

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS NA

II. MATERIAL LIMITS

1. The permittee shall only receive and burn distillate oil with a maximum sulfur content of 0.5 percent by weight in FGGENERATORS. **(R 336.1205(1)(a) and (3))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any of the six generators in FGGENERATORS for more than the maximum operating time of 100 hours per 12-month rolling time period for maintenance checks and readiness testing. There is no limit on the hours of operation for emergency service. **(R 336.1205(3))**

IV. DESIGN/EQUIPMENT PARAMETERS NA

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 monitor, in a satisfactory manner, the hours of operation of each of the six generators included in FG-GENERATORS on a monthly basis. **(R 336.1205(3))**
2. The permittee shall keep, in a satisfactory manner, monthly and 12 month rolling time period total hours of operation records for each emergency generator in FGGENERATORS, as required by SC III.1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205)**

VII. REPORTING NA

VIII. STACK/VENT RESTRICTIONS NA

IX. OTHER REQUIREMENTS NA

The following conditions apply to: FGFACILITY

DESCRIPTION: All process equipment at the facility including equipment covered by other permits, grandfathered equipment and exempt equipment.

Emission Units: All emission units included in FGBOILERS and FGGENERATORS. Equipment covered by other permits, grandfathered equipment, and exempt equipment.

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
1. SO ₂	89.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	GC 13, SC VI.2	R 336.1205(3)

II. MATERIAL LIMITS NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall operate all boilers in FGBOILERS and all generators in FGGENERATORS in accordance with manufacturer's recommendations for safe and proper operation to minimize emissions during periods of startup, shutdown and malfunction. **(R 336.1912)**

IV. DESIGN/EQUIPMENT PARAMETERS NA

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 in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205)**
2. The permittee shall calculate the SO₂ emission rates from FGFACILITY monthly, for the preceding 12-month rolling time period, using the following method or a method acceptable to the AQD District Supervisor.
 - a. Calculate SO₂ emissions for all boilers in FGFACILITY based on fuel usage data per special condition II.1 from FGBOILERS (until removal), and the worst-case emission factor from testing per GC 13 if required by the Department, or the following emission factors:

SO₂ Emission Factor for Fuel Oil in FGBOILERS = 71 lb/1,000 gallons of distillate oil based on a sulfur content of 0.5% by weight in the oil.

- b. Calculate SO₂ emissions for all emergency generators in FGFACILITY based on operating data per special condition III.1 of FGGENERATORS and the worst-case emission factor from testing per GC 13 if required by the Department, or 71 lb/1,000 gallons of distillate oil based on a sulfur content of 0.5% by weight in the oil, or a maximum emission factor of 4.0 lb SO₂ per hour for all generators combined.

VII. REPORTING NA

VIII. STACK/VENT RESTRICTIONS NA

IX. OTHER REQUIREMENTS NA