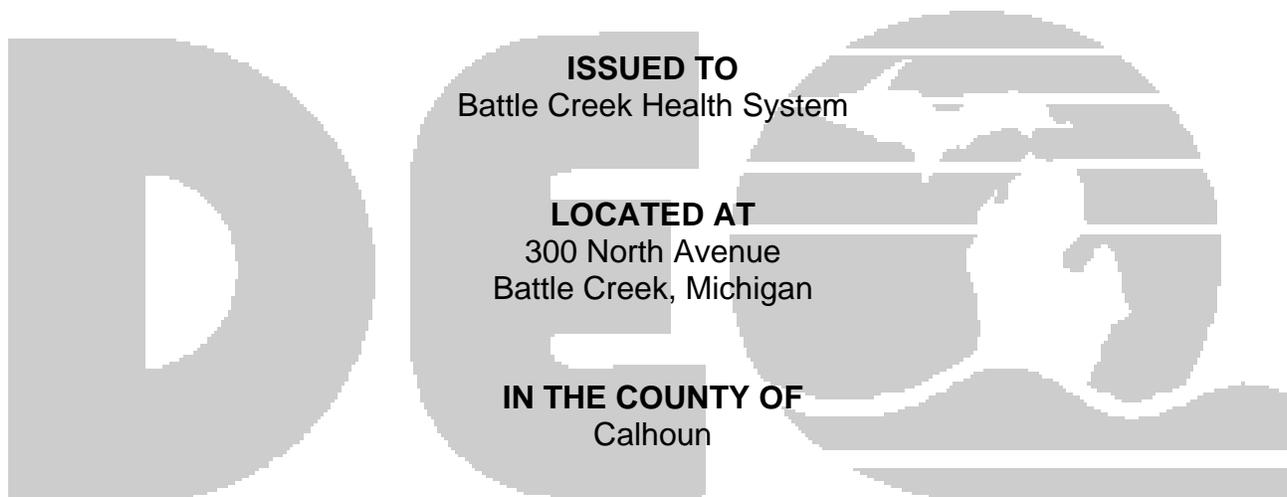


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

January 7, 2008

**PERMIT TO INSTALL
325-07**



ISSUED TO
Battle Creek Health System

LOCATED AT
300 North Avenue
Battle Creek, Michigan

IN THE COUNTY OF
Calhoun

STATE REGISTRATION NUMBER
N3655

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: October 1, 2007	
DATE PERMIT TO INSTALL APPROVED: January 7, 2008	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL
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	PM-10	Particulate matter less than 10 microns aerodynamic diameter
MSDS	Material Safety Data Sheet	pph	Pound per hour
NESHA	National Emission Standard for Hazardous Air Pollutants	ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	psia	Pounds per square inch, absolute
PSD	Prevention of Significant Deterioration	psig	Pounds per square inch, gauge
PTE	Permanent Total Enclosure	scf	Standard cubic feet
PTI	Permit to Install	sec	Seconds
RACT	Reasonably Available Control Technology	SO ₂	Sulfur dioxide
ROP	Renewable Operating Permit	THC	Total hydrocarbons
SC	Special Condition Number	tpy	Tons per year
SCR	Selective Catalytic Reduction	µg	Microgram
SRN	State Registration Number	VOC	Volatile organic compounds
TAC	Toxic Air Contaminant	yr	Year
TEQ	Toxicity Equivalence Quotient		
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, 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 AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **[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 nor does it affect any liability for past violations under the Natural Resources and Environmental Protection Act, 1994 PA 451.
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 Identification

Emission Unit ID	Emission Unit Description	Stack Identification
EU-BOILER B-1	Cleaver-Brooks CB.200.400.150 packaged boiler, heat input rating 16,750,000 Btu/hr when firing natural gas. When firing No. 2 fuel oil, fuel input rating is 119.5 gallons per hour.	SV-BST-1
EU-BOILER B-2	Cleaver-Brooks CB.200.400.150 packaged boiler, heat input rating 16,750,000 Btu/hr when firing natural gas. When firing No. 2 fuel oil, fuel input rating is 119.5 gallons per hour.	SV-BST-2
EU-BOILER B-3	Cleaver-Brooks CB.200.400.150 packaged boiler, heat input rating 16,329,000 Btu/hr when firing natural gas. When firing No. 2 fuel oil, fuel input rating is 116.6 gallons per hour. Low emissions design.	SV-BST-3
EU-GENERATOR G-1	Caterpillar 3412 Generator rated at 600 kW; Fuel is diesel fuel at 45 gallons per hour Emergency power source.	SV-GST-1
EU-GENERATOR G-2	Caterpillar 3412 Generator rated at 600 kW; Fuel is diesel fuel at 45 gallons per hour Emergency power source.	SV-GST-2
EU-GENERATOR G-3	Caterpillar 3412 Generator rated at 600 kW; Fuel is diesel fuel at 45 gallons per hour Emergency power source.	SV-GST-3
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 Identification

Flexible Group ID	Emission Units Included in Flexible Group	Stack Identification
FG-BOILERS	EU-BOILER B-1, EU-BOILER B-2, EU-BOILER B-3	SV-BST-1, SV-BST-2, SV-BST-3
FG-GENERATORS	EU-GENERATOR G-1, EU-GENERATOR G-2 EU-GENERATOR G-3	SV-GST-1, SV-GST-2, SV-GST-3
FGFACILITY	All process equipment at the facility including equipment covered by other permits, grandfathered equipment and exempt equipment.	

The following conditions apply to: FG-BOILERS

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement(s)
1.1	NO _x	FG-BOILERS	31.4 tpy	12-month rolling time period as determined at the end of each calendar month	SC 1.3, 1.5, 1.7 and 1.9	R336.1205
The NO _x limit is based on an emission factor of 20 lb per 1,000 gallons of oil. The alternate emission factor of 100 lb NO _x per million cubic feet of natural gas yields 22 tpy NO _x .						

Visible Emission Limits

1.2 Visible emissions from FG-BOILERS, when firing fuel oil, shall not exceed 20 percent opacity, as specified in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.43c(c). **[40 CFR Part 60 Subparts A & Dc]**

Material Usage Limits

1.3 The permittee shall combust only natural gas or distillate oil in FG-BOILERS. **(R 336.1201(3), R 336.1205, 40 CFR Part 60 Subpart Dc)**

1.4 The sulfur content of the fuel oil burned in FG-BOILERS shall not exceed 0.05 percent by weight. **[R 336.1205(3), R 336.1402, 40 CFR 60.42c(d)]**

Process/Operational Limits

1.5 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 FG-BOILERS. **[40 CFR Part 60 Subparts A & Dc]**

Monitoring

1.6 The permittee shall monitor, in a satisfactory manner, the natural gas and fuel oil usage in FG-BOILERS on a monthly basis. **[R 336.1225, R 336.1702(a)]**

1.7 The permittee shall demonstrate compliance with the SO₂ standard at 40 CFR 60.42c(d) by obtaining a fuel supplier certification for each delivery of distillate oil. The certification shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the following definition of distillate oil. Distillate oil means fuel oil that complies with the specifications for fuel oils numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, 89, 90, 92, 96, or 98, "Standard Specification for Fuel Oils." Also, AQD requires the inclusion of the following information on the certification:

- a. Flash point in °F or °C
- b. Gravity at 60/60F (specific gravity or degrees API)
- c. Sulfur content (% by weight)
- d. Higher heating value (Btu/lb or Btu/gallon)

[R 336.1205(3), 40 CFR 60.41c, 60.42c(d), 60.46c(h), and 60.48c(f)(1)]

Recordkeeping/Reporting/Notification

- 1.8 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission calculation records for FG-BOILERS. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **[R 336.1205, 40 CFR 52.21 (c) & (d)]**
- 1.9 The permittee shall keep, in a satisfactory manner, copies of the fuel supplier certifications for FG-BOILERS, as required by SC 1.7. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1205, 40 CFR 60.48c(i))**
- 1.10 The permittee shall submit notification to the AQD District Supervisor the following information as required by 40 CFR 60.7:
- a) The name and address of the owner or operator;
 - b) The physical location of the affected source;
 - c) The date of construction and actual startup
 - d) The design heat input capacity and identification of fuels to be combusted;
 - e) The annual capacity factor based on anticipated firing of each individual fuel.
- [40 CFR 60.48c(a)]**
- 1.11 The permittee shall keep, in a satisfactory manner, monthly natural gas and fuel oil usage records for FG-BOILERS. Records of fuel oil usage may be estimated monthly and corrected as actual average monthly usage at the time of receipt of an oil delivery. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R 336.1225, R 336.1702(a), 40 CFR 60.48c(g)]**

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.12a	SV-BST-1	24	25	R 336.1225, R 336.1901
1.12b	SV-BST-2	24	25	R 336.1225, R 336.1901
1.12c	SV-BST-3	24	25	R 336.1225, R 336.1901
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

The following conditions apply to: FG-GENERATORS

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement(s)
2.1	NO _x	FG-GENERATORS	20.4 tpy	12-month rolling time period as determined at the end of each calendar month	SC 1.4, 1.5, & 1.7	R336.1205
The NO _x limit is based on an emission factor of 604 lb NO _x per 1,000 gallons of fuel oil.						

Material Usage Limits

- 2.2 The permittee shall combust only distillate oil in FG-GENERATORS. **(R 336.1201(3), R 336.1205)**
- 2.3 The sulfur content of the fuel oil burned in FG-GENERATORS shall not exceed 0.05 percent by weight. **[R 336.1205(3), R 336.1402]**

Process/Operational Limits

- 2.4 The maximum operating time for each of the three generators included in FG-GENERATORS shall not exceed 500 hours per 12 month rolling time period. **[R 336.1201(3), R 336.1205]**

Monitoring

- 2.5 The permittee shall monitor, in a satisfactory manner, the hours of operation of each of the three generators included in FG-GENERATORS on a monthly basis. **[R 336.1225, R 336.1702(a)]**
- 2.6 The permittee shall obtain a fuel supplier certification for each delivery of distillate oil. The certification shall include the following information:
- Flash point in °F or °C
 - Gravity at 60/60F (specific gravity or degrees API)
 - Sulfur content (% by weight)
 - Higher heating value (Btu/lb or Btu/gallon)
- [R 336.1205(3)]**

Recordkeeping/Reporting/Notification

- 2.7 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission calculation records for FG-BOILERS. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **[R 336.1205, 40 CFR 52.21 (c) & (d)]**
- 2.8 The permittee shall keep, in a satisfactory manner, copies of the fuel supplier certifications for FG-GENERATORS, as required by SC 2.6. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1205, 40 CFR 60.48c(i))**

2.9 The permittee shall keep, in a satisfactory manner, monthly records of the hours of operation for each of the three generators included in FG-GENERATORS. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R 336.1225, R 336.1702(a),]**

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
2.10a	SV-GST-1	8	9	R 336.1225, R 336.1901
2.10b	SV-GST-2	8	9	R 336.1225, R 336.1901
2.10c	SV-GST-3	8	9	R 336.1225, R 336.1901
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

The following conditions apply to: FGFACILITY

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirements
3.1	NO _x	FGFACILITY	89.5 tpy	12-month rolling time period as determined at the end of each calendar month	See below, and SC 2.2	R336.1205(3)
<p>The permittee shall calculate NO_x emissions for all boilers in FGFACILITY based on fuel usage data per special conditions 1.6 and 1.11, and the worst-case emission factor from testing per GC 13, if required by the Department, and the emission factors below.</p> <p>The permittee shall calculate NO_x emissions for all emergency generators in FGFACILITY based on operating data per special conditions 2.5, 2.7, and 2.9, and the worst-case emission factor from testing per GC 13, if required by the Department and an emission factor of 604 lb NO_x per 1,000 gallons of fuel oil.</p> <p>Natural Gas Emission Factor for Boilers NO_x = 0.100 lb/MMBtu</p> <p>Fuel Oil Emission Factor for Boilers NO_x = 0.020 lb/gallon fuel oil</p>						

Recordkeeping / Reporting / Notification

3.2 The permittee shall keep, in a satisfactory manner, monthly and previous 12-month NO_x emission records, as required by SC 3.1, for FGFACILITY. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R 336.1205(1)(a) & (3)]**

3.3 The permittee shall keep monthly and previous 12-month natural gas and fuel oil usage records for FGFACILITY, in a format acceptable to the AQD District Supervisor, indicating the total amount of natural gas used, in cubic feet, and fuel oil used, in gallons, on a 12-month rolling time period basis. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **[R 336.1205(1)(a) & (3)]**