

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
AIR QUALITY DIVISION**

February 11, 2011

PERMIT TO INSTALL
252-10

ISSUED TO
Bronson Methodist Hospital

LOCATED AT
601 John Street
Kalamazoo, Michigan

IN THE COUNTY OF
Kalamazoo

STATE REGISTRATION NUMBER
E4169

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Natural Resources and Environment. 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:

February 2, 2011

DATE PERMIT TO INSTALL APPROVED:

February 11, 2011

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
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallon of Applied Coating Solids	H ₂ S	Hydrogen Sulfide
GC	General Condition	hp	Horsepower
HAP	Hazardous Air Pollutant	lb	Pound
HVLP	High Volume Low Pressure *	m	Meter
ID	Identification	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	ng	Nanogram
MDNRE	Michigan Department of Natural Resources and Environment (Department)	NO _x	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	PM less than 10 microns diameter
NSPS	New Source Performance Standards	PM2.5	PM less than 2.5 microns diameter
NSR	New Source Review	pph	Pound 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	Reasonably 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
SRN	State Registration Number	THC	Total Hydrocarbons
TAC	Toxic Air Contaminant	tpy	Tons per year
TEQ	Toxicity Equivalence Quotient	µg	Microgram
VE	Visible Emissions	VOC	Volatile Organic Compounds
		yr	Year

* 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 Natural Resources and Environment, 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 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 Natural Resources and Environment. **(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
EU-NC#1	A 1000 kilowatts (kW) diesel-fueled emergency backup generator manufactured in 2006. Emissions from EU-NC#1 and EU-NC#2 exhaust via two common exhaust stacks, SV-NC#1 and SV-NC#2.	December, 2006/ February 25, 2010	FG-Generators
EU-NC#2	A 1500 kW diesel-fueled emergency backup generator manufactured in 2006. Emissions from EU-NC#2 and EU-NC#1 exhaust via two common exhaust stacks, SV-NC#1 and SV-NC#2.	December, 2006/ February 25, 2010	FG-Generators
EU-NC#3	A 500 kw diesel-fueled emergency backup generator manufactured in 2010. Emissions from EU-NC#3 exhaust via exhaust stack, SV-NC#3.	February 14, 2011	FG-Generators
EU-SC#1	A 1000 kW diesel-fueled emergency backup generator manufactured in 1999. Emissions from EU-SC#1 and EU-SC#2 exhaust via two common exhaust stacks, SV-SC#1 and SV-SC#2.	March, 2000/ February 25, 2010	FG-Generators
EU-SC#2	A 1500 kW diesel-fueled emergency backup generator manufactured in 1999. Emissions from EU-SC#2 and EU-SC#1 exhaust via two common exhaust stacks, SV-SC#1 and SV-SC#2.	March, 2000/ February 25, 2010	FG-Generators
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
FG-Generators	Five diesel-fueled emergency backup generators. Two are 1500 kW in size, two are 1000 kW in size and one is 500 kW in size.	EU-NC#1 EU-NC#2 EU-NC#3 EU-SC#1 EU-SC#2

The following conditions apply to: FG-Generators

DESCRIPTION: Five diesel-fueled emergency backup generators. Two are 1500 kW in size, two are 1000 kW in size and one is 500 kW in size.

Emission Units: EU-NC#1, EU-NC#2, EU-NC#3, EU-SC#1, and EU-SC#2

POLLUTION CONTROL EQUIPMENT: None

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO _x	37.6 tpy	12-month rolling time period as determined at the end of each calendar month	FG-Generators	SC VI.3	R 336.1205(1)(a) & (3), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

The NO_x limit is based on the following emission factors listed below for each engine in FG-Generators:

- EU-NC#1 = 433 pounds NO_x per 1000 gallons of diesel fuel used
- EU-NC#2 = 436 pounds NO_x per 1000 gallons of diesel fuel used
- EU-NC#3 = 297 pounds NO_x per 1000 gallons of diesel fuel used
- EU-SC#1 = 413 pounds NO_x per 1000 gallons of diesel fuel used
- EU-SC#2 = 401 pounds NO_x per 1000 gallons of diesel fuel used

II. MATERIAL LIMITS

1. The permittee shall burn only diesel fuel, in FG-Generators with the maximum sulfur content of 15 ppm (0.0015 percent) by weight. **(R 336.1205(1)(a), R 336.1402(1), 40 CFR 60.4207(b), 40 CFR 80.510(b))**
2. The combined diesel fuel use for FG-Generators shall not exceed 183,839 gallons per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee may operate each of EU-NC#1, EU-NC#2 and EU-NC#3 for no more than 100 hours per 12-month rolling time period as determined at the end of each calendar month for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per year. **(40 CFR 60.4211(e))**
2. The permittee shall install, maintain, and operate each of EU-NC#1, EU-NC#2 and EU-NC#3 according to the manufacturer written instructions, or procedures developed by the owner/operator and approved by the engine manufacturer, over the entire life of the engine. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d), 40 CFR 60.4206, 40 CFR 60.4211(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain each of the five emergency backup generators with non-resettable hours meters to track their operating hours. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209(a))**
2. EU-NC#3 shall not exceed a nameplate capacity of 755 brake horsepower. **(R 336.1205(1)(a))**

V. TESTING/SAMPLING

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

N/A

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(1)(a) & (3), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**
2. The permittee shall keep, in a satisfactory manner, fuel supplier certification records for FG-Generators for each delivery of the diesel fuel oil. The certification shall include the name of the oil supplier, sulfur content, and a statement that the fuel complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. **(R 336.1205(1)(a) & (3), 40 CFR 80.510(a))**
3. The permittee shall keep manufacture certification documentation indicating that EU-NC#1, EU-NC#2 and EU-NC#3 meet the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subpart IIII. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211(b)(3))**
4. The permittee shall monitor and record the hours of operation during emergencies and non-emergencies of each of the five emergency backup generators. The time of operation of the engine and the reason it was in operation during that time on a monthly basis in a manner that is acceptable to the District Supervisor, Air Quality Division. **(R 336.1205(1)(a) & (3), 40 CFR 60.4211(e), 40 CFR 60.4214(b))**
5. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period NO_x emission calculation records for FG-Generators. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**
6. The permittee shall monitor and record in a satisfactory manner the diesel fuel usage rate for each individual generator on a monthly and 12-month rolling time period basis. The permittee shall also monitor and record in a satisfactory manner the combined diesel fuel usage rate for FG-Generators on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

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. SV-NC#1	16.0	88.0	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
2. SV-NC#2	14.0	88.0	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
3. SV-NC#3	8	62	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
4. SV-SC#1	14.0	111.0	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
5. SV-SC#2	12.0	111.0	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

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 IIII, as they apply to EU-NC#1 and EU-NC#2. **(40 CFR Part 60 Subparts A & IIII)**
2. 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 IIII, as they apply to EU-NC#3. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590(c)(1))**

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).