

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

January 11, 2023

PERMIT TO INSTALL
95-19A

ISSUED TO
William Beaumont Hospital

LOCATED AT
3601 West 13 Mile Road
Royal Oak, Michigan 48073

IN THE COUNTY OF
Oakland

STATE REGISTRATION NUMBER
G5067

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: October 17, 2022	
DATE PERMIT TO INSTALL APPROVED: January 11, 2023	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 condition 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
EU-BOILER2	Cleaver-Brooks Model D-60-RH (D-series) boiler. Heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. Capable of producing 40,000 pounds of steam per hour.	02/01/1998	FG-BOILER2&3, FG-FUELOIL
EU-BOILER3	Cleaver-Brooks Model D-52 (D-series) boiler. Heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. Capable of producing 40,000 pounds of steam per hour.	06/26/2002	FG-BOILER2&3, FG-FUELOIL
EU-BOILER4	Erie City boiler. Heat input capacity of 48 MMBtu/hour and capable of producing 40,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.	01/01/1973/ 09/09/1998	FG-BOILER4&5, FG-FUELOIL
EU-BOILER5	Keeler Model No. DS-40 boiler. Heat input capacity of 48 MMBtu/hour and capable of producing 40,000 pounds of steam per hours. Combusts natural gas and fuel oil No. 2.	01/01/1973/ 09/09/1998	FG-BOILER4&5, FG-FUELOIL
EU-ELECGEN6	Caterpillar Model 3512 internal combustion engine electrical generator. Heat input capacity of 10.0 MMBtu/hour and capable of producing 1,300 kilowatts of electricity. Combusts fuel oil No. 2.	02/01/1998	FG-FUELOIL, FG-EMERGENCY
EU-ELECGEN7	Caterpillar Model 3512 internal combustion engine electrical generator. Heat input capacity of 10.0 MMBtu/hour and capable of producing 1,300 kilowatts of electricity. Combusts fuel oil No. 2.	02/01/1998	FG-FUELOIL, FG-EMERGENCY
EU-ELECGEN8	Caterpillar Model 3516B internal combustion engine electrical generator. Heat input capacity of 17.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2.	07/31/2002	FG-FUELOIL, FG-EMERGENCY
EU-ELECGEN9	Caterpillar Model 3516B internal combustion engine electrical generator. Heat input capacity of 17.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2.	07/31/2002	FG-FUELOIL, FG-EMERGENCY
EU-ELECGEN3R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 23.5 MMBtu/hour. Capable of producing 2,500 kilowatts of electricity. Combusts fuel oil No. 2.	TBD	FG- ELECGEN3R&4R

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU-ELECGEN4R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 23.5 MMBtu/hour. Capable of producing 2,500 kilowatts of electricity. Combusts fuel oil No. 2.	TBD	FG-ELECGEN3R&4R

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.

FLEXIBLE GROUP SPECIAL CONDITIONS

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-BOILERS2&3	Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.	EU-BOILER2, EU-BOILER3
FG-BOILERS4&5	Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.	EU-BOILER4, EU-BOILER5
FG-FUELOIL	Emission units subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.	EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9,
FG-EMERGENCY	Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63 Subpart ZZZZ.	EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9,
FG-ELECGEN3R&4R	Two 23.5 MMBTU/hr, 3633bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88 liters/cylinder.	EU-ELECGEN3R, EU-ELECGEN4R

**FG-BOILERS2&3
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.

Emission Units: EUBOILER2, EUBOILER3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	23.0 tpy, for each boiler individually	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.4	40 CFR 52.21(c) & (d)
2. VE	6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. The opacity standard shall apply at all times except during periods of startup, shutdown or malfunction.	6-minute average per hour	EU-BOILER2, EU-BOILER3	GC 11, SC VI.6	40 CFR 60.43c (c) & (d)
3. SO ₂	1.7 pounds per calendar day, for each boiler individually	Calendar month average	EU-BOILER2, EU-BOILER3	SC VI.2	R 336.1401, 40 CFR 52.21(c) & (d)

Note: A calendar day is defined as 24 consecutive hours from midnight to midnight.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	420 MMscf per year, for each boiler individually	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.1	40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)
2. Fuel Oil No. 2	200,000 gallons per year, for each boiler individually	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.1	40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER2 and EU-BOILER3 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. **(40 CFR Part 63 Subpart JJJJJ)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 monthly and 12-month rolling natural gas and fuel oil No. 2 usage records for EU-BOILER2 and EU-BOILER3 in a format acceptable to the AQD District Supervisor of the amount of natural gas used in MM cubic feet and of the amount of fuel oil used in gallons each calendar month. The records shall indicate the total amount of natural gas and fuel oil used. **(40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))**
2. The permittee shall calculate average daily SO₂ emissions from EU-BOILER2 and EU-BOILER3 each calendar month using the method delineated in Appendix 7.1. **(R 336.1401, 40 CFR 52.21(c) & (d))**
3. The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER2 and EU-BOILER3. **(R 336.1401, 40 CFR 52.21(c) & (d))**
4. The permittee shall calculate NO_x emissions from EU-BOILER2 and EU-BOILER3 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2. **(40 CFR 52.21(c) & (d))**
5. The permittee shall keep a record of the emission calculations for EU-BOILER2 and EU-BOILER3. **(40 CFR 52.21(c) & (d))**
6. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER2 and EUBOILER3. The permittee shall record all preventative maintenance events and have the records available upon request. **(R 336.1910, R 336.1911)**

7. The permittee shall monitor and keep records of the number of hours EU-BOILER2 and EU-BOILER3 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year. **(40 CFR Part 63 Subpart JJJJJJ)**

See Appendix 7

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-STACK1	48	131	R 336.1224, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Unit. **(40 CFR 60 Subpart Dc)**

Footnotes:

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

**FG-BOILERS4&5
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.

Emission Units: EU-BOILER4, EU-BOILER5

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	48.5 tpy combined	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.4	40 CFR 52.21(c) & (d)
2. VE	6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. The opacity standard shall apply at all times except during periods of startup, shutdown or malfunction.	6-minute average per hour	EU-BOILER4, EU-BOILER5	GC 11, SC VI.6	40 CFR 60.43c(c) & (d)
3. SO ₂	1.1 pounds combined for each calendar day.	Calendar month average	EU-BOILER4, EU-BOILER5	SC VI.2	R 336.1401, 40 CFR 52.21(c) & (d)

Note: A calendar day is defined as 24 consecutive hours from midnight to midnight.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	693.8 MMscf combined per year	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.1	40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)
2. Fuel Oil No. 2	5,250 gallons combined per year	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.1	40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER4 and EU-BOILER5 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year. **(40 CFR Part 63 Subpart JJJJJJ)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

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 monthly and 12-month rolling natural gas and fuel oil No. 2 usage records for EU-BOILER4 and EU-BOILER5 in a format acceptable to the AQD District Supervisor of the amount of natural gas used, in MM cubic feet, and of the amount of fuel oil used, in gallons, each calendar month. The records shall indicate the total amount of natural gas and fuel oil used. **(40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))**
2. The permittee shall calculate average daily SO₂ emissions from EU-BOILER4 and EU-BOILER5 each calendar month and on a rolling 12-month time period using the method delineated in Appendix 7.1. **(R 336.1401, 40 CFR 52.21(c) & (d))**
3. The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER4 and EU-BOILER5. **(R 336.1401, 40 CFR 52.21(c) & (d))**
4. The permittee shall calculate NO_x emissions from EU-BOILER4 and EU-BOILER5 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2. **(40 CFR 52.21(c) & (d))**
5. The permittee shall keep a record of the emission calculations for EU-BOILER4 and EU-BOILER5. **(40 CFR 52.21(c) & (d))**
6. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER4 and EU-BOILER5. The permittee shall record all preventative maintenance events and have the records available upon request. **(R 336.1910, R 336.1911)**

7. The permittee shall monitor and keep records of the number of hours EU-BOILER4 and EU-BOILER5 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year. **(40 CFR Part 63 Subpart JJJJJJ)**

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-BOILER4	30.0	35.1	R 336.1224, 40 CFR 52.21(c) & (d)
2. SV-BOILER5	42.0	35.1	R 336.1224, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Unit. **(40 CFR 60 Subpart Dc)**

Footnotes:

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

**FG-FUELOIL
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Emission units subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Fuel Oil No. 2	65,000 gallons combined per year	12-month rolling time period as determined at the end of each calendar month	EU-ELECGEN6, EU-ELECGEN7	SC VI.2	40 CFR 52.21(c) & (d)
2. Fuel Oil No. 2	65,000 gallons combined per year	12-month rolling time period as determined at the end of each calendar month	EU-ELECGEN8, EU-ELECGEN9	SC VI.2	40 CFR 52.21(c) & (d)
3. Sulfur content in fuel	15 ppm sulfur in fuel by weight in each fuel shipment.	Each fuel oil shipment	FG-FUELOIL	SC VI.1	R 336.1401, 40 CFR 52.21(c) & (d), 40 CFR 60.42c(d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

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, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in any emission unit in FG-FUELOIL, demonstrating that the fuel sulfur content meets the requirement for all emission units covered in FG-FUELOIL. The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil. **(R 336.1205(1)(a), R 336.1401, 40 CFR 60.48c(f))**
2. The permittee shall keep fuel oil usage records for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8 and EU-ELECGEN9 in a format acceptable to the AQD District Supervisor indicating the amount of fuel used in gallons each calendar monthly and 12-month rolling. The records shall indicate the total amount of fuel oil used. **(40 CFR 52.21(c) & (d))**
3. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8 and EU-ELECGEN9. The permittee shall record all preventative maintenance events and have the records available upon request. **(R 336.1910, R 336.1911)**

See Appendix 7

VII. REPORTING

1. The permittee shall submit semiannual reports consisting of fuel oil analyses either conducted by the fuel oil supplier or an independent laboratory and a certified statement signed by a responsible official indicating that the analysis submitted represents all of the fuel oil combusted during the reporting period. Each semiannual report shall be postmarked by the 30th day following the end of the reporting period. The semiannual reporting periods shall coincide with the reporting periods specified for the semiannual deviation reports (January 1 through June 30 and July 1 through December 31, respectively). **(40 CFR 60.48c(d), 40 CFR 60.48c(e) & 40 CFR 60.8(j))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FG-EMERGENCY FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63 Subpart ZZZZ.

Emission Units: EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9,

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any engine in FG-EMERGENCY for more than 500 hours per year on a 12-month rolling time period basis, as determined at the end of each calendar month. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FG-EMERGENCY with a non-resettable hour meter to track the operating hours. **(R 336.1205(1)(a))**

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 monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FG-EMERGENCY, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-EMERGENCY, including what classified the operation as emergency and how many hours are spent for non-emergency operation. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1)(a))**
2. The permittee shall maintain the following record for each engine in FG-EMERGENCY. The following information shall be recorded and kept on file at the facility:
 - a) Engine manufacturer;
 - b) Date engine was manufactured;
 - c) Engine model number;

- d) Engine horsepower;
- e) Engine serial number;
- f) Engine specification sheet;
- g) Date of initial startup of the engine; and
- h) Date engine was removed from service at this stationary source.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor.
(R 336.1301, R 336.1331, R 336.1702, R 336.1910, R 336.1911, R 336.1912)

See Appendix 7

VII. REPORTING

NA

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-ELECGEN6	15.6	50	R 336.1224, 40 CFR 52.21(c) & (d)
2. SV-ELECGEN7	15.6	50	R 336.1224, 40 CFR 52.21(c) & (d)
3. SV-ELECGEN8	18	37	R 336.1224, 40 CFR 52.21(c) & (d)
4. SV-ELECGEN9	18	37	R 336.1224, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and ZZZZ, as they apply to FG-EMERGENCY. **(40 CFR Part 63 Subparts A & ZZZZ)**

Footnotes:

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

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-ELECGEN3R&4R
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Two 23.5 MMBTU/hr, 3,633 bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88 liters/cylinder

Emission Units: EU-ELECGEN3R, EU-ELECGEN4R

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMHC + NO _x ^A	6.4 g/kW-hr	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039
2. CO ^A	3.5 g/kW-hr ²	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039
3. PM ^A	0.20 g/kW-hr ²	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039
4. NO _x	25.6 tpy ^B	12-month rolling time period as determined at the end of each calendar month	FG-ELECGEN3R&4R	SC VI.6	40 CFR 52.21(c) & (d)

^AThese emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c).

^BBased on the emission factor 6.38 g/bhp-hr at maximum capacity of 3633 bhp at 500 hours as restricted in SC III.1

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel, in each engine of FG-ELECGEN3R&4R with the maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 60.4207, 40 CFR 1090.305)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate each engine in FG-ELECGEN3R&4R for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**
2. The permittee may operate each engine in FG-ELECGEN3R&4R for no more than 100 hours per calendar year 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, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The 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 calendar year. **(40 CFR 60.4211(f)(2))**
3. The permittee may operate each engine in FG-ELECGEN3R&4R up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted as part of the 100 hours per calendar year provided for maintenance and testing as provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f)(3))**
4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of FG-ELECGEN3R&4R:
 - a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,
 - b. Change only those emission-related settings that are permitted by the manufacturer, and
 - c. Meet the requirements as specified in 40 CFR 1068, as they apply to the engine.If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine. **(40 CFR 60.4211(a))**
5. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for either engine of FG-ELECGEN3R&4R and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine of FG-ELECGEN3R&4R with non-resettable hours meters to track the operating hours. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209)**
2. The nameplate capacity of each engine of FG-ELECGEN3R&4R shall not exceed 2,500 kW, as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4202, 40 CFR 60.4205, 40 CFR 1039, 40 CFR 1042)**

V. TESTING/SAMPLING

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

1. If any engine in FG-ELECGEN3R&4R is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:

- a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
 - b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.
 - c) Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.
- No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. 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. **(40 CFR 60.4211(g) (3), 40 CFR 60.4212)**

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 30th 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), 40 CFR 52.21 (c) & (d))**
2. The permittee shall keep, in a satisfactory manner, the following records for each engine in FG-ELECGEN3R&4R:
 - a. For each certified engine: The permittee shall keep records of the manufacturer certification documentation.
 - b. For each uncertified engine: The permittee shall keep records of testing required in SC V.1.The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**
3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for each engine in FG-ELECGEN3R&4R:
 - a. For each certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.
 - b. For each uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.5, and maintenance activities.The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**
4. The permittee shall monitor and record, the total hours of operation for each engine in FG-ELECGEN3R&4R on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for each engine in FG-ELECGEN3R&4R, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of each engine in FG-ELECGEN3R&4RENGINES, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 60.4214)**
5. 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 FG-ELECGEN3R&4R, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. 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. **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 1090.305)**
6. The permittee shall calculate and keep, in a manner acceptable to the AQD supervisor, records of monthly and 12-month rolling NO_x emissions for FG-ELECGEN3R&4R during months of operation. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed in a method approved by the District Supervisor **(40 CFR 52.21(c) & (d))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of each engine of FG-ELECGEN3R&4R. **(R 336.1201(7)(a))**
2. The permittee shall submit a notification specifying whether each engine of FG-ELECGEN3R&4R will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60 Subpart IIII)**

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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-STACK2	36	126	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to each engine of FG-ELECGEN3R&4R. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590)**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine of FG-ELECGEN3R&4R, upon startup. **(40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

Footnotes:

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

APPENDIX 7 Emission Calculations

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EU-BOILER1, FG-297-97A, FG-BOILER4&5, FG-33-01.

7.1 Applicant shall calculate the SO₂ emissions from Boiler No. 1 through Boiler No. 5 using the following equation:

$$ESO_{2\text{daily}} = F_{\text{fueloil}} * D * S * 2$$

Where:

“ESO_{2daily}” is the emission of SO₂, in pounds, on a daily basis recorded each calendar day;

“F_{fueloil}” = is the fuel oil usage rate, in gallons;

“D” is the density of the fuel oil in lbs. per gallon based on the most recent fuel supplier certification or fuel sample test data, or 7.2 if not data is available;

“S” is the sulfur content of the fuel oil in lb. per lb of fuel oil based on the most recent fuel supplier certification or fuel sample test data; and

“2” is the conversion of sulfur to sulfur dioxide.

7.2 Applicant shall calculate the NO_x emissions from Boiler No. 1 through Boiler No. 5 using the following equation:

$$ENO_{x\text{daily}} = (F_{\text{gasflow}} * 0.0001) + (F_{\text{fueloil}} * 0.02)$$

Where:

“ENO_{xdaily}” is the emission rate, in pounds, of NO_x on a daily which shall be recorded each calendar day;

“F_{gasflow}” is the natural gas usage rate, in cubic feet;

“F_{fueloil}” is the fuel oil usage rate, gallon(s);

“0.0001” is the emission factor for NO_x emissions in pounds per cubic foot of natural gas; and

“0.02” is the emission factor of NO_x is pounds per gallon of fuel oil.

ENO_{xannual}, in tons = The sum of all ENO_{xdaily} for the previous consecutive 365 calendar days/2000.

ENO_{xannual} shall be recorded each calendar day.

¹Compliance with the allowable emission rate shall be determined using an emission factor of 0.00000154 pounds of NO_x per BTU, until such time that the NO_x emission testing is completed. Following completion of the NO_x emission testing, compliance with the annual allowable NO_x emission rate shall be determined using the results of the most recent performance test.