

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

March 29, 2011

**PERMIT TO INSTALL
11-11**

ISSUED TO
Hewlett-Packard Enterprise Services, LLC

LOCATED AT
885 West Entrance Drive
Auburn Hills, Michigan

IN THE COUNTY OF
Oakland

STATE REGISTRATION NUMBER
N5505

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:

February 9, 2011

DATE PERMIT TO INSTALL APPROVED:

March 29, 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 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 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 |
|--|--|--|--------------------------|
| EU-Engine-01 | Diesel-fired Emergency Backup Generator No. 1: Location: Building No. 885 Engine Make: Detroit Diesel Engine Model: 16V-149TIB Manufacturing Year: 1994 Rated Output (electrical): 1,745 kWe Rated Engine Power at 100% Load: 2,340 BHP Permitted Capacity: 75% of Maximum Load | 06-27-1995/ NA | FG-Engines-01-02-03 |
| EU-Engine-02 | Diesel-fired Emergency Backup Generator No. 2: Location: Building No. 885 Engine Make: Detroit Diesel Engine Model: 16V-149TIB Manufacturing Year: 1994 Rated Output (electrical): 1,745 kWe Rated Engine Power at 100% Load: 2,340 BHP Permitted Capacity: 75% of Maximum Load | 06-27-1995/ NA | FG-Engines-01-02-03 |
| EU-Engine-03 | Diesel-fired Emergency Backup Generator No. 3: Location: Building No. 885 Engine Make: Detroit Diesel Engine Model: 16V-149TIB Manufacturing Year: 1994 Rated Output (electrical): 1,745 kWe Rated Engine Power at 100% Load: 2,340 BHP Permitted Capacity: 75% of Maximum Load | 06-27-1995/ NA | FG-Engines-01-02-03 |
| EU-Engine-04 | Diesel-fired Emergency Backup Generator No. 4: Location: Building No. 885 Engine Make: Detroit Diesel Engine Model: 16V4000G43 Manufacturing Year: 2006 Rated Output (electrical): 2,000 kWe (2 MW) Permitted Capacity: 100% of Maximum Load | 08-31-2007/ NA | NA |
| Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290. | | | |

The following conditions apply to: EU-Engine-04

DESCRIPTION: Diesel-fired Emergency Backup Generator No. 4:

Location: Building No. 885
 Engine Make: Detroit Diesel
 Engine Model: 16V4000G43
 Manufacturing Year: 2006
 Rated Output (electrical): 2,000 kWe (2 MW)
 Permitted Capacity: 100% of Maximum Load

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

| Pollutant | Limit | Time Period/ Operating Scenario | Equipment | Monitoring/ Testing Method | Underlying Applicable Requirements |
|---------------------|--------------|--|--------------|----------------------------------|--|
| 1. HC | 1.3 g/kW-hr | Test protocol will specify averaging time. | EU-Engine-04 | SC V.I | R 336.1702, 40 CFR 60.4205(a) |
| 2. NO _x | 7.5 g/kW-hr | Test protocol will specify averaging time. | EU-Engine-04 | SC V.I | R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.4205(a) |
| 3. CO | 11.4 g/kW-hr | Test protocol will specify averaging time. | EU-Engine-04 | SC V.I | R 336.2804, 40 CFR 52.21 (d), 40 CFR 60.4205(a) |
| 4. PM | 0.54 g/kW-hr | Test protocol will specify averaging time. | EU-Engine-04 | SC V.I | R 336.1331(1)(c), 40 CFR 60.4205(a) |
| 5. PM ₁₀ | 0.54 g/kW-hr | Test protocol will specify averaging time. | EU-Engine-04 | SC V.I | R 336.1331(1)(c), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.4205(a), |

II. MATERIAL LIMITS

1. The permittee shall only burn diesel fuel, in EU-Engine-04, that meets the requirements of 40 CFR 80.510(b), as follows:
 - a. Maximum sulfur content of 15 ppm per gallon (0.0015 percent by weight), and
 - b. A minimum cetane index of 40; or a maximum aromatic content of 35 percent by volume.
(40 CFR 60.4207(b))
2. The diesel fuel use for EU-Engine-04 shall not exceed 137.4 gallons per hour. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.4205(a))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall operate and maintain EU-Engine-04 according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the manufacturer to ensure compliance with the applicable emission standards in 40 CFR 60.4205(b). **(R 336.1911, 40 CFR 60.4205(a), 40 CFR 60.4206, 40 CFR 60.4211(c))**
2. The permittee shall not operate EU-Engine-04 for more than 387 hours per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain EU-Engine-04 with a non-resettable hour meter to track the number of hours the engine operates. **(R 336.1205(1)(a), 40 CFR 60.4209(a))**
2. EU-Engine-04 shall not exceed a nameplate capacity of 2,000 kW (electrical). **(R 336.1205(1)(a), 40 CFR Part 72.2)**

V. TESTING/SAMPLING

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

1. Upon request from District Supervisor, the permittee shall verify HC, NO_x, CO, PM, and PM₁₀ emission rates listed in SC I.1 – SC I.5 for EU-Engine-04, by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee must submit a complete stack-testing plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1331(1)(c), R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.4205(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 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**
2. The permittee shall monitor and record in a satisfactory manner, the hours of operation for EU-Engine-04 per 12-month rolling time period as determined at the end of each calendar month. The record shall include the time and duration of operation, and the reason the engine was in operation. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a), 40 CFR 60.4214(b))**
3. The permittee shall keep, in a satisfactory manner, fuel supplier certification records 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 336.1401)**
4. The permittee shall monitor and record in a satisfactory manner the diesel usage rate for EU-Engine-04 on a gallons per hour basis. **(R 336.1205(1)(a), 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. EU-Engine-04 | 18 | 24 | R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (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-Engine-04. **(40 CFR Part 63, Subparts A and 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 63 Subpart ZZZZ, as they apply to EU-Engine-04. **(40 CFR Part 63, Subpart ZZZZ)**

Footnotes:

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

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-Engines-01-02-03 | Three Diesel-fired Emergency Backup Generators located in the Building No. 885. Each with following specifications: Engine Make: Detroit Diesel Engine Model: 16V-149TIB Manufacturing Year: 1994 Rated Output (electrical): 1,745 kWe Rated Engine Power at 100% Load: 2,340 BHP Permitted Capacity: 75% of Maximum Load | EU-Engine-01, EU-Engine-02, EU-Engine-03 |

The following conditions apply to: FG-Engines-01-02-03

DESCRIPTION: Three Diesel-fired Emergency Backup Generators located in the Building No. 885. Each with following specifications:

Engine Make: Detroit Diesel
 Engine Model: 16V-149TIB
 Manufacturing Year: 1994
 Rated Output (electrical): 1,745 kWe
 Rated Engine Power at 100% Load: 2,340 BHP
 Permitted Capacity: 75% of Maximum Load

Emission Unit ID: EU-Engine-01, EU-Engine-02, and EU-Engine-03

POLLUTION CONTROL EQUIPMENT:

I. EMISSION LIMITS

| Pollutant | Limit | Time Period / Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|--------------------|----------------------------|---|--|-----------------------------|--|
| 1. Opacity | 10 percent | Test protocol will specify averaging time | Each Engine (EU-Engine-01, EU-Engine-02, EU-Engine-03) | GC 13 | R 336.1301(1)(c) |
| 2. NO _x | 42.7 pph | Test protocol will specify averaging time | Each Engine (EU-Engine-01, EU-Engine-02, EU-Engine-03) | GC 13 | R 336.1205, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d) |
| 3. NO _x | 128.1 pph | Test protocol will specify averaging time | FG-Engines-01-02-03 | GC 13 | R 336.1205, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d) |
| 4. SO ₂ | 0.06 lbs/MM Btu heat input | Test protocol will specify averaging time | Each Engine (EU-Engine-01, EU-Engine-02, EU-Engine-03) | GC 13 | R 336.1401 |

II. MATERIAL LIMITS

1. The diesel fuel use for each engine of the FG-Engines-01-02-03 shall not exceed 83.5 gallons per hour. (R 336.1205(1)(a), 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 shall not operate each engine of the FG-Engines-01-02-03 for more than 387 hours per 12-month rolling time period as determined at the end of each calendar month. (R 336.1205, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))

IV. DESIGN/EQUIPMENT PARAMETERS

N/A

V. TESTING/SAMPLING

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

1. Upon request from District Supervisor, the permittee shall verify NO_x emission rates from each engine of the FG-Engines-01-02-03, by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee must submit a complete stack-testing plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall 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, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**
2. The permittee shall keep records of the sulfur content, in percent by weight on supplier shipment basis (for each delivery). The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1401)**
3. The permittee shall monitor and record in a satisfactory manner the diesel usage rate for each engine of the FG-Engines-01-02-03 on a gallons per hour basis. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**
4. The permittee shall monitor and record in a satisfactory manner the hours of operation for each engine of the FG-Engines-01-02-03 on a monthly and 12-month rolling time period basis. **(R 336.1205, 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 (inches) | Minimum Height Above Ground (feet) | Underlying Applicable Requirements |
|----------------------------|--|---|--|
| 1. SV-Engine-01 | 18 | 24 | R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d) |
| 2. SV-Engine-02 | 18 | 24 | R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d) |
| 3. SV-Engine-03 | 18 | 24 | R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d) |

IX. OTHER REQUIREMENTS

N/A

Footnotes:

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