

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NSPS SOURCE - REVISED

PERMITTEE

Motorola, Inc.  
Attn: Mr. Neil McCloud  
1301 East Algonquin Road  
Schaumburg, Illinois 60196

Application No.: 90020032                      I.D. No.: 031282AAN  
Applicant's Designation: 1301 E. Algonquin    Date Received: September 11, 2007  
Subject: Electronic Components Production and Assembly Plant  
Date Issued: December 14, 2007              Expiration Date: November 3, 2010  
Location: 1301 East Algonquin Road, Schaumburg, Cook County

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of three 15 mmBtu/hour, two 10 mmBtu/hour and seventy-four small natural gas fired boilers and heaters, seven natural gas, six diesel oil fired emergency engine/generators and one RG32 shredder pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., less than 100 tons/year for nitrogen oxides (NO<sub>x</sub>)). As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to initial issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) issued for this location.
- 2a. The three 15 mmBtu/hour boilers constructed after June 9, 1989 are subject to New Source Performance Standards (NSPS) for small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subparts A and Dc. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The Permittee shall fulfill applicable reporting and recordkeeping requirements of 40 CFR 60.48(c).
- c. At all times the Permittee shall, to the extent practicable, maintain and operate the boilers, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

3. All fuel combustion emission units covered by this permit are subject to 35 Ill. Adm. Code 212.206, which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hour of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu).
- 4a. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, pursuant to 35 Ill. Adm. Code 214.301.
- b. Pursuant to 35 Ill. Adm. Code 214.304 the emissions from the burning of fuel at process emission units located in the Chicago major metropolitan areas shall comply with 35 Ill. Adm. Code 214.122(b)(2), which provides that:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 mmBtu/hour), burning liquid fuel exclusively to exceed 0.46 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lbs/mmBtu).
- 5a. Only natural gas shall be fired in 7 of the emergency generators and distillate fuel oil (Grades No. 1 and 2 oil) in the other 6 generators.
- b. At the above location, the Permittee shall not keep, store, or utilize distillate fuel oil (Grades No. 1 and 2) with a sulfur content greater than the larger of the following two values:
  - i. 0.28 weight percent; or
  - ii. The wt. percent given by the formula: Maximum wt. percent sulfur =  $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$ .
- c. Organic liquid by-products or waste materials shall not be used in the diesel-powered emergency generator without written approval from the Illinois EPA.
- d. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- e. The Permittee shall notify the Illinois EPA prior to any change in the type of fuel used at the source.
- f. The Permittee shall keep a maintenance and repair log for the engine-generators, listing significant activities performed with date.
6. Use of Organic Material. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 8.0 lbs/hour of organic material into the atmosphere from any emission unit. If no odor nuisance exists then this limitation shall only apply to

photochemically reactive material as define in 35 Ill. Adm. Code 211.4690.

- 7a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
  - b. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 Ill. Adm. Code 212.301 and 212.314.
  - c. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
8. Operation and emissions of the fuel combustion equipment shall not exceed the following limits:

- a. Boilers (combined):

Natural Gas Usage: 88 mmscf/month, 374 mmscf/year

<u>Pollutant</u>	<u>Emission Factor</u> (Lbs/mmscf)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Nitrogen Oxides (NO <sub>x</sub> )	100	4.4	18.7
Carbon Monoxide (CO)	84	3.6	15.7
Volatile Organic Material (VOM)	5.5	0.3	1.0

- b. Natural Gas Fired Engines (Combined):

Natural Gas Usage: 1.5 mmscf/month, 1.5 mmscf/year

<u>Pollutant</u>	<u>Emission Factor</u> (Lbs/mmscf)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Nitrogen Oxides (NO <sub>x</sub> )	4,598	3.5	3.5
Carbon Monoxide (CO)	7,739	5.8	5.8
Volatile Organic Material (VOM)	619	0.5	0.5

c. i. 4 Large Diesel Engines (Combined):

Diesel fuel usage: 220,000 gallons/month, 220,000 gallons/year

<u>Pollutant</u>	Emission Factors from AP-42, Table 3.4-1		Emissions	
	<u>(Lbs/1,000 Gal)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	
Nitrogen Oxides (NO <sub>x</sub> )	448.0	49.3	49.3	
Carbon Monoxide (CO)	119.0	13.1	13.1	
Sulfur Dioxide (SO <sub>2</sub> )	140 x 0.05	0.8	0.8	
Volatile Organic Material (VOM)	13.0	1.4	1.4	

ii. 5 Small Diesel Engines (Combined)

Diesel Fuel Usage: 76,630 gallons/month and gallons/year

<u>Pollutant</u>	Emission Factors from AP-42, Table 3.3-1		Emissions	
	<u>(Lbs/1,000 Gal)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	
Nitrogen Oxides (NO <sub>x</sub> )	618	23.7	23.7	
Carbon Monoxide (CO)	133	5.1	5.1	
Volatile Organic Material (VOM)	49	2.0	2.0	
Sulfur Dioxide (SO <sub>2</sub> )	41	1.6	1.6	

These limits define potential emissions and are based on standard AP-42 emission factors in Section 1.4 for the boilers, Table 3.4-1 and a conversion factor of 140 mmBtu/1000 gallons #2 oil for large diesel engines, Table 3.3-1 and a conversion factor of 140 mmBtu/1000 gallons #2 oil for small diesel engines, manufacturer's emission factors for the natural gas engines and maximum sulfur content in diesel fuel of 0.05%. Compliance with annual limits shall be determined on a monthly basis from a running total of the previous 12 months of data.

9. Plant-wide clean-up solvent usage and VOM emissions shall not exceed 2.0 tons/month and 6.0 tons/year. Compliance with annual limits shall be determined on a monthly basis from a running total of the previous 12 months of data.

10a. Emissions and operation of the RG32 Shredder shall not exceed the following limits:

<u>Material Throughput</u>		<u>PM Emissions</u>		<u>Lead Emissions</u>	
<u>(Lbs/Hour)</u>	<u>(Tons/Year)</u>	<u>(Lbs/Hour)</u>	<u>(Tons/Yr)</u>	<u>(Lbs/Hour)</u>	<u>(Tons/Yr)</u>
400	1,752	1.08	4.73	0.10	0.44

These limits are based on the allowable emission rate from 35 Ill. Adm. Code 212.321, the maximum material throughput and 8,760 hours per year of operation. Lead emissions are based on the material processed in the shredder containing 9.3% lead by weight.

- b. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 11a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
  - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
- b. Testing required by Condition 5 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
- 12a. Pursuant to 35 Ill. Adm. Code 212.107, for both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301.

- b. Pursuant to 35 Ill. Adm. Code 212.109, except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged.
  - c. Pursuant to 35 Ill. Adm. Code 212.110(a), measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E.
  - d. Pursuant to 35 Ill. Adm. Code 212.110(b), the volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4.
  - e. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- 13. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
  - 14. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.
  - 15. The Permittee shall maintain monthly records of the following items:
    - a. Natural gas usage (mmscf/month and mmscf/year);
    - b. Diesel fuel usage (gallons/month and gallons/year);

- c. Records of the sulfur content of the fuel oil for each shipment of fuel oil received, percent by weight;
  - d. Clean-up solvent usage (tons/month and tons/year) and operating hours to comply with 35 Ill. Adm. Code 218.301;
  - e. Material throughput (tons/month and tons/year); and
  - f. Monthly and annual emissions of CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, VOM and Lead with supporting calculations (tons/month and tons/year).
16. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.
17. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
18. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

Please note that this permit has been revised to incorporate the operation of the equipment in Construction Permit #07070060.

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If you have any questions on this, please call Dwayne Booker at 217/782-2113.

Edwin C. Bakowski, P.E.  
Acting Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:DLB:psj

cc: Illinois EPA, FOS Region 1  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the electronic components manufacturing and assembly plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is a usage of 375.5 mmscf of natural gas and 296,630 gallons of diesel fuel per year. The resulting maximum emissions are below 100 tons per year of NO<sub>x</sub> at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

<u>Item or Equipment</u>	<u>Annual Emissions (Tons/Year)</u>					
	<u>CO</u>	<u>NO<sub>x</sub></u>	<u>PM</u>	<u>SO<sub>2</sub></u>	<u>VOM</u>	<u>Lead</u>
Boilers and Heaters	15.7	18.7			1.0	
Clean-Up					6.0	
Generators	24.0	76.5		2.4	3.9	
RG32 Shredder			<u>4.73</u>			<u>0.44</u>
Totals	<u>39.7</u>	<u>95.2</u>	<u>4.73</u>	<u>2.4</u>	<u>10.9</u>	<u>0.44</u>

DLB:psj