



Maricopa County

Air Quality Department

AIR QUALITY DEPARTMENT
1001 North Central Avenue
Phoenix, AZ 85004

Microchip Technology Inc.
ATTN: Joy Jones
2355 W. Chandler Blvd.
Chandler, AZ 85224

The purpose of the letter is to inform you that the application for a permit renewal has been approved and will be incorporated into Air Quality Permit 000089. The applicable Permit Conditions are enclosed with this letter.

If you need assistance with the permit, please contact the Small Business Assistance Coordinator office at 602.506.5102 or contact the undersigned at 602.506.7248. Email communications may be sent to AQPermits@mail.maricopa.gov.

MARICOPA COUNTY AIR QUALITY DEPARTMENT

Engineering and Permitting Division

1001 N. Central Avenue, Suite 400, Phoenix, Arizona 85004

Phone: (602) 506-6010 Fax: (602) 506-6985

AIR QUALITY PERMIT TO OPERATE AND/OR CONSTRUCT

(As required by Title 49, Chapter 3, Article 2, Section 49-480, Arizona Revised Statutes)

ISSUED TO

Microchip Technology, Inc.
2355 W. Chandler Blvd
Chandler, AZ 85224

This air quality permit to operate and/or construct does not relieve the applicant of the responsibility of meeting all air pollution regulations.

THE PERMITTEE IS SUBJECT TO THE SPECIFIC AND GENERAL CONDITIONS IDENTIFIED IN THIS PERMIT.

PERMIT NUMBER: 000089

REVISION DATE: xx/xx/xxxx

REVISION NUMBER: 3.0.0.0

EXPIRATION DATE: 11/30/2020

Todd Martin, Non-Title V Permit Supervisor

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Any cited regulatory paragraphs or section numbers refer to the version of the rules and regulations that were in effect on the first date of public notice of the applicable Permit Condition unless specified otherwise. However, in the event the rules and regulations are amended during the term of this Permit, the amended rules and regulations shall apply to this Permit. Whenever the term, Control Officer, is used in this Permit it shall be interpreted to mean, Control Officer or designated representative. Where the term "Rule" appears, it shall be construed to mean "Maricopa County Air Pollution Control Regulations" unless otherwise noted.

SPECIFIC CONDITIONS

1. Allowable Emissions:

The Permittee shall not allow emissions into the atmosphere to exceed any of the following limits:

	Daily Emission Limits	Twelve Month Rolling Total Emission Limits
Carbon Monoxide (CO)	109 lbs	28,280 lbs/yr
Nitrogen Oxides (NOx) - From process emissions and existing equipment.	150 lbs	49,983 lbs/yr ⁽¹⁾
Nitrogen Oxides (NOx) – Alternate operating scenario	53 lbs	13,801 lbs/yr ⁽²⁾
Sulfur Oxides (SOx)	6 lbs	876 lbs/yr
Particulate Matter < 10 micron diam. (PM-10)	95 lbs	26,428 lbs/yr
Particulate Matter < 2.5 micron diam. (PM-2.5)	95 lbs	26,428 lbs/yr
Volatile Organic Compounds (VOC)	N/A	80,398 lbs/yr
Total Hazardous Air Pollutants (HAPs)	N/A	14,578 lbs/yr
Any single Hazardous Air Pollutant (HAP)	N/A	9,802 lbs/yr

- (1) Source-wide emission cap for this pollutant, excluding the alternative operating scenario equipment outlined in Permit Condition 2.
- (2) Under alternative operating scenario for NOx, Source-wide emissions cap is 63,784 lbs.

Emissions shall be calculated in accordance with the formulas and techniques set forth in the most recent permit application. The twelve month rolling total emissions shall be calculated within 30 days following the end of each calendar month by summing the emissions over the most recent twelve calendar months. Daily emissions shall be calculated by taking the monthly emissions and dividing by the number of operating days within that month.

The Permittee shall use the actual removal efficiency demonstrated by RCTO 20-2 (or RTO 20-1 if applicable) for emission calculations. If testing demonstrates an outlet concentration of 10 ppmv or less total VOCs measured as propane, the Permittee can assume 90% removal efficiency.

[Rule 220, §302.2]

2. Alternate Operating Scenario for Oxides of Nitrogen ("NOx"):

The alternate operating scenario for oxides of nitrogen referenced in footnote #2 for the table in Permit Condition 1 relates specifically to new equipment expected to be installed, and future chemical usage associated with that equipment, during the life of this Permit. The new equipment includes: eight (8) natural gas-fired point-of-use (POU) abatement devices and twenty (20) chemical vapor deposition systems and furnaces.

[Rule 220, §302.2]

SEMICONDUCTOR MANUFACTURING

3. Solvent Cleaning:

The Permittee shall comply with all of the following:

- a. The Permittee shall not store, discard, or dispose of VOCs or materials containing VOCs in a way intended to cause or to allow the evaporation of VOCs to the atmosphere. All materials from which

VOCs can evaporate, including fresh solvent, waste solvent and solvent soaked rags and residues, shall be stored in closed containers when not in use;

- b. Containers shall be legibly labeled with their contents. Hazardous waste 90-day storage tanks shall be labeled in accordance with the Resource Conservation and Recovery Act; Permittee shall maintain records of the average VOC content of hazardous waste temporarily stored in tanks.
- c. All containers containing VOCs shall be leak free and shall be kept covered except when the materials are being transferred or when the containers are being cleaned.
- d. Disposal of waste or surplus VOC-containing materials shall be done in a manner that does not promote VOC evaporation, such as, but not limited to, via sewage treatment works in accordance with the site's Industrial User Permit or having the waste hauled off-site in sealed containers or tank trucks. Records of disposal/recovery or recycling of VOCs shall be kept in accordance with applicable federal, state and local environmental protection requirements;
- e. Unless records show that VOC-containing cleaning material was sent offsite for legal disposal and/or recovery or recycling, it will be assumed that it evaporated on site.

[Rule 331 §301 and Rule 338 §305]

4. Solvent Cleaning Stations:

The Permittee shall operate solvent cleaning stations with solvents which contain more than 10% VOC materials, in accordance with all of the following requirements:

- a. Each reservoir, sink, and container shall have a full cover in place at all times except while operators require access for loading or unloading, sampling, or maintenance purposes. [Rule 338 §302.1(a)]
- b. All stations using VOC containing materials with a vapor pressure greater than 33 mm Hg at 20°C (68°F) shall have a freeboard ratio greater than or equal to 1.0. [Rule 338 §302.1(b)]
- c. Cleaning solvents shall be applied in a continuous unbroken stream in a manner to prevent splashing. [Rule 338 §302.1(c)]
- d. Alternative Compliance for Solvent Processes: The Permittee is allowed to meet the requirements of Conditions a. through c., above, by using at least one of the following applications:
 - i. An emission control system (ECS); or
 - ii. An air-tight or airless system that both is sealed during cleaning and drying and has a sealed, self-contained liquid-solvent recovery system; or
 - iii. Solvents that contain less than or equal to 10% VOC by weight.

[Rule 338, §302.3]

5. Material Limitations:

- a. The Permittee shall limit the usage of materials such that the amounts in the table below are not exceeded:

Material	Twelve Month Rolling Total Usage, lbs/12-month period
Total isopropanol (IPA) usage for wipedown and cleanroom custodial use	26,115 lbs

This material use limit shall be verified as described in the record keeping requirements of Condition 10.

- b. VOC containing solvents used to clean semiconductor equipment shall meet at least one of the following requirements:

- i. The VOC content of the solvent shall not exceed 200 gr/l (1.7 lbs/gallon); or
- ii. The VOC composite partial pressure shall not exceed 33 mm Hg at 20°C (68°F); or
- iii. The components being cleaned are totally enclosed during washing, rinsing, and draining such that no greater than 50 ppm (220 mg/m³) of VOC emissions are detected using the method as defined in Rule 338 §503.5.

[Rule 338, §302.2]

- c. Alternative Compliance for Solvent Processes: The Permittee is allowed to meet all of the above requirements by using at least one of the following applications:
 - i. An emission control system (ECS) that achieves an overall control efficiency as required under Rule 338, Section 301; or
 - ii. An air-tight or airless system that both is sealed during cleaning and drying and has a sealed, self-contained liquid-solvent recovery system; or
 - iii. Solvents that contain less than or equal to 10% VOC by weight.

[Rule 338, §302.3]

6. Semiconductor Chemical Vapor Deposition Systems:

The chemical vapor deposition equipment shall not be operated unless their exhaust is vented through a centralized wet scrubber unless the Permittee demonstrates to the satisfaction of the Control Officer that connecting the source to the centralized wet scrubber would result in dilution of the stream to the extent that overall emissions would not be reduced.

- a. The centralized wet scrubbers shall be operated in accordance with the most recently submitted O&M Plan at all times during normal operation.

[Rule 220, §302.2]

7. Emission Control Device Requirements:

The Permittee shall install and operate air pollution control devices in accordance with the following:

- a. Centralized VOC abatement units RTO 20-1 and RCTO 20-2: Except as authorized by Permit Condition 7.a.iii, the centralized VOC abatement unit(s) shall be properly functioning and operated at all times in accordance with the most recently submitted O&M plan to control the emissions of VOCs from semiconductor manufacturing operations.

- i. The VOC abatement unit(s) shall:
 - 1) Achieve at least 81% overall VOC control of all semiconductor operation VOCs, including capture and processing of all semiconductor operations VOCs, as determined by applicable provisions in Rule 338 Section 503; or
 - 2) Capture at least 91% of all semiconductor operation VOCs and achieve an hourly average stack concentration not exceeding 20 mg VOC/standard cubic meter, as determined by applicable provisions in Rule 338 Section 503. Mass loading of VOC is expressed as milligrams of non-methane organic carbon; or
 - 3) Achieve an outlet concentration of 10 ppmv or less total VOCs measured as propane.

The capture and control efficiencies listed in Permit conditions 7.a.i.1) and 7.a.i.2) are consistent with the control efficiency requirements for photoresist and aggregated cleaning listed in Rule 338 (80 and 90% respectively), assuming a 12-month rolling total as the time interval over which the capture and control efficiencies are evaluated and taking into account three days of VOC abatement unit(s) bypass (see Permit Condition 7.a.iii of this condition) at 0% capture and control.

- ii. All VOC abatement unit(s) shall be operated at the same or higher combustion chamber set-point temperature used to demonstrate compliance during the most recent performance test.

[Rule 338, §301] [Rule 241 §301]

[A Guideline for Semiconductor Industry Part III, Volatile Organic Compounds (VOC) Abatement Performance Test (November 12, 2001)]

iii. The Permittee may temporarily shut down the VOC abatement unit(s) for maintenance and temporarily bypass the unit(s) and vent process exhausts to the atmosphere without reducing semiconductor manufacturing operations at the site as long as the following conditions are met:

- 1) Back-up RTO 20-1 is also down.
- 2) Such bypass does not cause any emission limit to be exceeded;
- 3) The maintenance activity shall not occur during the ground-level ozone season (May 1-September 30);
- 4) The maintenance activity shall be for a duration not to exceed three (3) continuous days (72 hours) during each non ground-level ozone season (October 1 – April 30); and,
- 5) The Permittee shall provide written notice to the Control Officer at least seven (7) days in advance of performing scheduled maintenance on the VOC abatement unit(s) anytime the maintenance requires the unit(s) to be temporarily shut down. The notice shall include the date, length of time and purpose for the shutdown.
- 6) Should the three day period be exceeded, the Permittee shall comply with all record keeping and reporting requirements of Rule 130 (Emergency Provisions) and Rule 140 (Excess Emissions).

[Rule 220 §302.2]

iv. The Permittee may only use natural gas, butane and propane as fuels for VOC abatement unit(s).

[Rule 220 §302.2]

b. Centralized Wet Scrubbers: The Permittee shall vent HAP emissions from etch, chemical vapor deposition, and wet bench processes to a centralized wet scrubber at all times in accordance with the most recently submitted O&M plan. The wet scrubbers shall be properly functioning in accordance with the most recently submitted O&M Plan at all times during normal operation. Inorganic HAP emissions from the manufacturing operations shall be vented to the scrubbers unless the Permittee demonstrates to the satisfaction of the Control Officer that connecting the source to the control would result in dilution of the stream to the extent that overall HAP emissions would not be reduced.

i. Each wet scrubber system shall have removal efficiency for the acid gas constituent of at least 90% by weight of hydrogen fluoride (HF) or less than a 1 ppmv outlet concentration for that pollutant.

ii. In the event that the emissions testing data required by Permit Condition 12 for the wet scrubber systems do not demonstrate the required removal efficiency as required in Permit Condition 12.q.i, as an alternative, the Permittee may demonstrate compliance in accordance with the Maricopa County Air Quality Department guidance document “Optional Compliance Demonstrations Procedure, A Guideline for Semiconductor Industry, Part I, Acid/Base Emissions & Wet Scrubber Performance Test” dated May 4, 2001.

c. New semiconductor manufacturing equipment which emits regulated air pollutants shall be vented to the appropriate control device unless the Permittee demonstrates to the satisfaction of the Control Officer that connecting the source to the control device would result in dilution of the stream to the extent that overall emissions would not be reduced.

[Rule 220, §302.2],

[Optional Compliance Demonstrations Procedure, a Guideline for Semiconductor Industry, Part I, Acid/Base Emissions & Wet Scrubber Performance Test]

d. For each piece of equipment for which the Permittee is assuming 91% capture of VOC, the Permittee shall demonstrate that the ventilation/draft rates of such equipment in accordance with following requirements:

Capture efficiency of an emission control device used to meet the requirements this section shall be determined by mass balance in combination with ventilation/draft rate determinations done in accordance with EPA Methods 2, 2A, 2C, or 2D (ventilation/draft rates), or US EPA Test Methods 204, 204a, 204b, 204c, 204d, 204e, and 204f, Appendix M, 40 CFR §51.

Verification that all active hoods and ducts, when measured at any selection of any interior place within them, are at negative pressure relative to adjacent, uncaptured air shall suffice for routine and uncontested demonstration of capture adequacy and this permit condition.

Compliance with this condition shall be verified with the testing conducted in Permit Condition 12 and recordkeeping requirements as outlined in Permit Condition 10.i.

[County Rule 338 §503.3]

8. Integrated Point-of-Use Abatement Devices:

For the purposes of this Non-Title V air quality permit, and consistent with the MCAQD guidance document “A Guideline for Semiconductor Industry Part II, Procedure to Determine Requirements for Operation and Maintenance Plan Point-of-Use/Exhaust Condition Units” (June 4, 2001), the calculations for total site emissions do not reflect emission reductions associated with point-of-use abatement devices integrated with the process tools. Therefore, all point-of-use emissions abatement devices are not considered air pollution control equipment and are not equipment required to be performance tested.

[Optional Compliance Demonstrations Procedure, a Guideline for Semiconductor Industry, Part II, Procedure to Determine Requirements for Operation and Maintenance Plan Point-of-Use/Exhaust Condition Units]

9. Operations and Maintenance Plan (O&M Plan):

- a. The Permittee shall comply with the most recently submitted O&M Plan at all times for the following control devices: Water Wash Fume Scrubbers 6-1, 6-2, 7-1, 9-1, 9-2, 9-3, 15-1, 15-2, 15-3, and RCTO 20-2. Each O&M Plan shall be prepared in accordance with the MCAQD’s guidelines and shall be submitted to the MCAQD within 45 days after the issuance of the permit unless the O&M Plan was submitted and approved prior to this date.
- b. Unless previously submitted and approved, The Permittee shall submit an O&M Plan for each of the POU abatement devices for which an emission reduction credit is taken within 45 days of the issuance of this permit. The O&M Plan shall be prepared in accordance with the Maricopa County Environmental Services Department (MCAQD) guidance document “Optional Compliance Demonstrations, A Guideline for Semiconductor Industry, Part II, Procedure to Determine Requirement for Operation and Maintenance Plan“ dated June 4, 2001.
- c. The Permittee shall submit an O&M Plan for any additional centralized wet scrubber or centralized VOC abatement unit which is installed during the term of this Permit, within 45 days of the equipment being brought online or within 45 days after the new wet scrubber or VOC abatement unit has achieved the capability to operate at its maximum production rate on a sustained basis, whichever occurs last.
- d. Each O&M Plan shall include requirements for training employees who are responsible for operating or maintaining the emission control devices and the associated process equipment, as necessary.
- e. As part of each O&M Plan, the Permittee shall establish appropriate ranges for the key operating parameters for the emission control devices and the associated process equipment.
- i. At a minimum the plan shall include:
 - 1) Centralized Wet Scrubbers: Scrubber pressure drop, scrubber liquid pH level, and scrubber liquid recirculation flow rate.
 - 2) RCTOs: Oxidizer Combustion Temperature.
- f. The Permittee shall monitor, operate and maintain control devices in accordance with the most recently submitted O&M plan. If any control device is found to be operating outside a specified

range, the Permittee shall immediately take corrective action to bring the device back into the specified operating range or shut down the device and the equipment vented to it. In the event of any unforeseen downtime such as malfunctions or power outages, the Permittee shall log all of these instances and any root-cause analysis conducted as a result (if applicable).

- g. If a pattern of excursions, as determined by the Department or the Permittee, of operation outside the specified operating range develops, the Permittee shall submit for Department approval a Corrective Action Plan to bring the devices back into the specified operating range. The Plan shall be submitted to the Department, Attn: Air Quality Compliance Section, within 30 days of the determination of the existence of a pattern of operation outside the specified operating range.

[Rule 220, §302.5]

10. Recordkeeping:

The Permittee shall maintain the following records:

- a. A current list of VOC containing materials, including their formulations as applied, make-up solvents, and any other VOC containing materials used for all operations regulated by Rule 331 and Rule 338 at the facility, stating the VOC content of each in either pounds per gallon or grams per liter. The vapor pressure limits or VOC content of cleaning solvents shall be documented by a manufacturer's technical data sheet, manufacturer's safety data sheet or actual test results.
- b. Accurate monthly usage records of chemicals/mixtures that contribute to emissions listed in Condition 1.
- c. Monthly chemical usage records to demonstrate compliance with the material limits shown in Permit Condition 5.a.
- d. Monthly natural gas fuel usage records for the facility, recorded from billing cycle statements.
- e. Temperature measured in the combustion zone of the VOC abatement unit(s) as required to demonstrate compliance with the requirements of Permit Condition 7.a.ii
- f. Records which indicate the amount of time the VOC abatement unit(s) is offline due to scheduled maintenance or malfunction and any excess emissions which occur during this time.
- g. The Permittee shall maintain records of any monitoring and maintenance requirements and key operating parameters as specified in the O&M and Adequate Maintenance and Calibration (AMC) Plans.
- h. A facility log as required by Maricopa County Air Quality Department (MCAQD) Rule 220, Section 400 and in the format required by MCAQD Rule 220, Section 500.
- i. The Permittee shall maintain records to demonstrate compliance with Permit Condition 7.d, specifically that the VOC abatement unit's exhaust distribution systems is meeting the applicable capture efficiency of this permit or that the system is under negative pressure, where applicable.

[Rule 220, §302.7, §400; Rule 312, §501; Rule 330, §503; Rule 324 §502; Rule 338 §500]

11. Reporting:

- a. Notification of VOC abatement unit(s) long-term maintenance as required by Condition 7.a.iii.
- b. Notification of commencement of construction and startup of equipment subject to 40 CFR Part 60 New Source Performance Standards shall be submitted to the Control Officer as required by 40 CFR 60.7.
- c. Copies of the facility logs required pursuant to MCAQD Rule 220, Section 400, shall be filed by January 31 each year for the previous reporting year.
- d. Upon request, the Permittee shall furnish to the Control Officer copies of any records required to be kept by this permit.

[Rule 220, §302.2, 302.5]

12. Performance Testing:

The Permittee shall conduct performance testing on the following equipment:

-RCTO 20-2 to demonstrate compliance with the control efficiency requirements of Permit Condition 7.a.

-Centralized wet scrubbers 6-1, 6-2, 7-1, 9-1, 9-2, 9-3, 15-1, 15-2, 15-3 to demonstrate compliance with the control efficiency requirements of Permit Condition 7.b.

-Verification testing to ensure adequate capture efficiency required by Permit Condition 7.a.i.2).

- a. Testing Requirements: Unless previously tested within the last 58 to 62 months, The Permittee shall conduct performance tests on the equipment within 60 days after the permit issuance date (Rev 3.0.0.0) or within 60 days after the new applicable equipment has achieved the capability to operate at its maximum production rate on a sustained basis, whichever occurs last. The testing deadline may be extended by the Control Officer for good cause, but in no case shall the testing deadline, including test report submittal, extend beyond 180 days after the permit issuance date.

[County Rule 270 §401]

- b. The Permittee shall conduct a performance test on the back-up RTO 20-1 within 60 days after the system is brought online as a back-up to RCTO 20-2. The Permittee need not conduct testing on RTO 20-1 if it used only as an emergency back-up VOC abatement unit and is not used on a sustained basis.

[County Rule 270][County Rule 220 §302.5]

- c. The Permittee shall conduct performance testing on each piece of equipment which requires testing in this permit condition, every five years (within 58 to 62 months of the previous respective test) except for the verification testing of any active duct or hoods. Repeat testing of the capture efficiency if not required unless the system configuration changes or the fans are replaced.

[County Rule 270 §102]

- d. Testing Criteria: Performance tests shall be conducted and data reduced in accordance with the test methods and procedures specified unless the Control Officer and Administrator specifies or approves minor changes in methodology to a reference method, approves the use of an equivalent test method, approves the use of an alternative method that has been determined to be acceptable for demonstrating compliance, or waives the requirement for performance tests because the Permittee has demonstrated by other means that the source is in compliance with the standard. For NSPS facilities, only EPA has the authority to waive initial testing requirements.

[County Rule 270 §402]

- e. Test Methods: Sampling sites and velocity traverse points shall be selected in accordance with EPA Test Method 1 or 1A. The gas volumetric flow rate shall be measured in accordance with EPA Test Method 2, 2A, 2C, 2D, 2F, 2G or 19. The dry molecular weight shall be determined in accordance with EPA Test Method 3, 3A or 3B. The stack gas moisture shall be determined in accordance with EPA Test Method 4. These methods must be performed, as applicable, during each test run.

[County Rule 270 §301.1][SIP Rule 27 §B]

- f. Operating Conditions: Performance tests shall be conducted under representative operating conditions and all equipment shall be operated during testing in accordance with the most recently approved O&M Plan or according to its operations manual if no O&M Plan is required. The Permittee shall make available to the Control Officer any records necessary to determine appropriate conditions for performance tests. Operations during periods of startup, shutdown, and equipment malfunction shall not constitute representative conditions for performance tests unless otherwise specified in the applicable standard or permit conditions.

[Rule 270 §403]

- g. Monitoring Requirements: The Permittee shall record all process and control equipment information that are necessary to document operating conditions during the test and explain why the conditions represent normal operation. Operational parameters shall be monitored and recorded at least once every 30 minutes during each of the required test runs and documented in the test report. The

operational parameters monitored shall be capable of indicating that the equipment is operating within the permitted limits, both during and after the performance tests.

[Rule 270 §403]

- h. Test Protocol Submittal: The Permittee shall submit a separate test protocol for each performance test to the Department for review and approval at least 30 days prior to each performance test. The test protocol shall be prepared in accordance with the Department's "Air Quality Performance Test Guidelines for Compliance Determination in Maricopa County" dated June 17, 2005. A completed copy of the Department's "Test Protocol Submittal Form" shall accompany each test protocol.
- [Rule 270 §301.1]
- i. Notice of Testing: The Permittee shall notify the Department in writing at least two weeks in advance of the actual date and time of each performance test so that the Department may have a representative attend.
- [Rule 270 §404]
- j. Testing Facilities Required: The Permittee shall install any and all sample ports or platforms necessary to conduct the performance tests, provide safe access to any platforms and provide the necessary utilities for testing equipment.
- [Rule 270 §405]
- k. Minimum Testing Requirements: Each performance test shall consist of three separate test runs with each test run being at least one hour in duration unless otherwise specified in the applicable standard or in this permit. The same test methods shall be conducted for both the inlet and outlet measurements, if applicable, which must be conducted simultaneously. Emissions rates, concentrations, grain loadings, and/or efficiencies shall be determined as the arithmetic average of the values determined for each individual test run. Performance tests may only be stopped for good cause, which includes forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of a performance test without good cause after the first test run has commenced shall constitute a failure of the performance test.
- [Rule 270 §406]
- l. The performance testing shall include a test method performance audit (PA) during the performance test consistent with the requirements outlined in 40 CFR §60.8(g). The PAs consist of blind audit samples supplied by an accredited audit sample provider and analyzed during the performance test in order to provide a measure of test data bias. An accredited audit sample provider (AASP) is an organization that has been accredited to prepare audit samples by an independent, third party accrediting body.
- i. The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. No audit samples are required for the following test methods: Methods 3A and 3C of appendix A-3 of part 60, Methods 6C, 7E, 9, and 10 of appendix A-4 of part 60, Methods 18 and 19 of appendix A-6 of part 60, Methods 20, 22, and 25A of appendix A-7 of part 60, Methods 30A and 30B of appendix A-8 of part 60, and Methods 303, 318, 320, and 321 of appendix A of part 63 of this chapter.
- [40 CFR §60.8(g)]
- m. Test Report Submittal: The Permittee shall complete and submit a separate test report for each performance test to the Department within 45 days after the completion of testing. The test report shall be prepared in accordance with the Department's "Air Quality Performance Test Guidelines for Compliance Determination in Maricopa County" dated June 17, 2005. A completed copy of the Department's "Test Report Submittal Form" shall accompany each test report.
- [Rule 270 §301.1]
- n. Compliance with Emission Limits: Compliance with allowable emission limits and standards shall be determined by the performance tests specified in this permit. If test results do not demonstrate

compliance with the requirements of these permit conditions, the Permittee shall make the necessary repairs and/or adjustments to the equipment and demonstrate compliance through retesting. This will not nullify the fact that test results did not demonstrate compliance with the requirements of the permit conditions or nullify any violations that may result from this noncompliance. In addition to compliance demonstrations, test results shall be used for annual emissions inventory purposes, if applicable.

[Rule 270 §407]

- o. Correspondence: All test extension requests, test protocols, test date notifications, and test reports required by this permit shall be submitted to the Department and addressed to the attention of the Performance Test Evaluation Supervisor.

[County Rule 270 §301.1][SIP Rule 27 §B]

- p. Centralized VOC Abatement Unit(s):

- i. The Permittee shall measure the VOC concentration in the VOC abatement unit(s) inlet and exhaust streams to demonstrate compliance with the requirements of Condition 7.a of this Permit. If the Permittee is demonstrating compliance with the outlet VOC ppm standard of Permit Condition 7.a.i.3), only the exhaust streams need to be tested. Testing shall also demonstrate compliance with all applicable VOC emission limits of these Permit Conditions.
- ii. The Permittee shall measure the concentrations of NO_x and CO in the VOC abatement unit(s) exhaust stream. Testing shall demonstrate compliance with all applicable NO_x and CO concentrations and/or emission limits of these Permit Conditions.
- iii. VOC testing shall be conducted in accordance with ASTM D6348-12, EPA Test Method 320, 25 or 25A. Testing to quantify exempt compounds, such as methane shall be conducted in accordance with EPA Test Method 18, EPA Test Method 25 or 25A methane/non-methane hydrocarbon analyzer, ASTM D6348-12, EPA Test Method 320, or an alternative test method approved by the Control Officer. NO_x testing shall be conducted in accordance with EPA Test Method 7E. CO testing shall be conducted in accordance with EPA Test Method 10.
- iv. The Permittee shall record the combustion chamber temperature and combustion chamber set-point temperature during the performance test. These and any additional operational parameters shall be identified in the test protocol and recorded during testing. Following the performance test, the VOC abatement unit(s) shall be operated at the combustion chamber set-point temperature used to demonstrate compliance.

- q. Centralized Wet Scrubbers:

- i. The Permittee shall measure the hydrofluoric acid (HF) concentration in the inlet and exhaust stream of the scrubber to demonstrate a minimum removal efficiency of 90% by weight. Testing shall demonstrate compliance with all applicable HF concentration and/or emission limits of these Permit Conditions.
- ii. In the event that the emissions testing data required by this condition for the centralized wet scrubbers do not demonstrate the required removal efficiency, as an alternative, the Permittee may demonstrate compliance in accordance with the Maricopa County Air Quality Department guidance document "Optional Compliance Demonstrations Procedure, A Guideline for Semiconductor Industry, Part I, Acid/Base Emissions & Wet Scrubber Performance Test" dated May 4, 2001.
- iii. HF testing shall be conducted in accordance with EPA Test Methods 26, 26A, 320, ASTM D6348-12 or other test method as approved by the Control Officer.
- iv. The Permittee shall record the scrubber pressure drop, scrubber liquid recirculation rate and scrubber liquid pH level during the performance test. These and any additional operational parameters shall be identified in the test protocol and recorded during testing.

- r. Source testing shall not be required as a condition of like-kind replacement of or addition to the wet

scrubber systems identified in Permit Condition 12 as long as Maricopa County Rule 220 and other rules applicable to facility changes, including requirements for O&M plan updates, are complied with. For the purposes of these permit conditions, like-kind shall mean that the replacement or additional wet scrubber or wet scrubber system is substantially similar in capacity (within plus or minus 50 percent airflow cfm and within 10% of the manufacturer's recommended water flow gpm), function, and service to the former or existing wet scrubber or wet scrubber system and that a source test has been performed on the former or existing wet scrubber or wet scrubber system in accordance with Permit Condition 12 and accepted by the Control Officer. The applicability of the like-kind source test exemption shall also apply to change in air flow orientation (horizontal vs. vertical), manufacturer, or the number of wet scrubbers within the same system (two each at 100% capacity with one operating vs. three each at 50% with two operating, etc.).

[County Rule 220 §302.5]

- s. Authority: The above testing requirements represent the minimum level of testing to monitor for compliance with the emission limits in this permit. Nothing in this section shall prevent the Control Officer from requiring additional performance testing as deemed necessary to ensure permit compliance and protection of the public health and welfare.

[County Rule 270 §402.5]

13. Optional Compliance Demonstrations:

The following Optional Compliance Demonstration documents are incorporated by reference into this Non-Title V Air Quality Permit:

- a. A Guideline for Semiconductor Industry Part I, Acid/Base Emissions and Wet Scrubber Performance Test (May 4, 2001).
- b. A Guideline for Semiconductor Industry Part II, Procedure to Determine Requirements for Operation and Maintenance Plan Point-of-Use/Exhaust Condition Units (June 4, 2001).
- c. A Guideline for Semiconductor Industry Part III, Volatile Organic Compounds (VOC) Abatement Performance Test (November 12, 2001).
- d. A Guideline for Semiconductor Industry Part IV, Insignificant and Trivial Activities (March 26, 2002).

EMERGENCY GENERATORS

Engines:

CATERPILLAR Models 3406 (519 hp), 3508 (1,199 hp) and 3508B (1,489 hp), Emergency Use Engines

14. Opacity:

- a. The Permittee shall not discharge into the ambient air from any single source of emissions any air contaminant, other than uncombined water, in excess of 20% opacity.
- b. Compliance with visible emissions shall be determined using the techniques specified in EPA Reference Method 9, 40 CFR Part 60, Appendix A.

[County Rule 324 §§303, 503.8]

15. General Compliance Requirements:

The Permittee shall operate and maintain all reciprocating compression-ignition (CI) engines and associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Control Officer which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[40 CFR §63.6605]

16. Operating Requirements:

The Permittee shall meet the following operating requirements:

- a. Change oil and filter every 500 hours of operation or annually, whichever comes first; the analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity and percent water content. The condemning limits for these parameters are as follows:
 - i. Total Base Number is less than 30 percent of the Total Base Number of the oil when new;
 - ii. Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new;
 - iii. Percent water content (by volume) is greater than 0.5.

If none of these limits are exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee must change the oil before continuing to use the engine. The Permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine

- b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
- d. During periods of startup the Permittee shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
- e. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirement on the required schedule required by this Condition or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated.

[40 CFR §63.6625(h); Table 2d(4)]

17. Work and Management Practices:

The Permittee shall comply with one of the following work/management practices:

- a. Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
- b. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 CFR §63.6640(a); Table 6(9)]

18. Hardware/Controls:

The Permittee shall install a non-resettable hour meter prior to startup of the emergency engine. The Permittee shall not operate the emergency engine(s) unless its cumulative run time meter is installed and working properly.

[40 CFR §63.6625(f)] [County Rule 324 §104.5]

19. Operational Limitations:

- a. The Permittee shall limit the operation of the emergency engine(s) to no more than 100 hours each per calendar year for the purposes of maintenance checks and readiness testing.

[County Rule 324 §104.5, 205]
- b. The Permittee shall limit the total hours of operation of the emergency engine(s) to no more than 200 hours each per any twelve consecutive months including the 100 hours listed above. The daily

trigger of Best Available Control Technology (BACT) has been exempted for emergency engine(s).
[County Rule 220 §302.2]

- c. The emergency engines(s) shall not be used for peak shaving. The emergency engine(s) shall only be used for the following purposes:
- i. For power when normal power service fails from the serving utility or if onsite electrical transmission or onsite power generation equipment fails;
 - ii. Emergency pumping of water resulting from a flood, fire, lightning strikes, police action or for any other essential public services which affect the public health and safety;
 - iii. Lighting airport runways;
 - iv. Sewage overflow mitigation and/or prevention;
 - v. Reliability-related activities such as engine readiness, calibration, or maintenance or to prevent the occurrence of an unsafe condition during electrical system maintenance;
 - vi. As the prime engine when the prime engine has failed, but only for such time as is needed to repair the prime engine; or
 - vii. To operate standby emergency water pumps for fire control that activate when sensors detect low water pressure.
- [County Rule 324 §104]
- d. The Permittee may not use any fuel that contains more than 0.05% sulfur by weight, alone or in combination with other fuels.
[County Rule 324 §301.1]

20. Record Keeping:

The Permittee shall maintain the following records for each engine for a period of at least five years from the date of the records and make them available to the Control Officer upon request:

- a. An initial one time entry listing the particular engine combustion type (compression or spark-ignition or rich or lean burn); manufacturer; model designation, rated brake horsepower, serial number and where the engine is located on the site.
[County Rule 324 §502.1; County Rule 220 §302.7]
- b. An annual engine record that includes hours of operation and an explanation for use.
[County Rule 324 §502.4; County Rule 220 §302.7]
- c. Monthly records of engine operation. The records shall include the purpose of operation and the duration of time the engine was operated. The record shall identify whenever the operation of the engine was for emergency purposes.
[County Rule 220 §302.5]
- d. A copy of the emergency engine manufacturer's written instructions, or procedures developed by the Permittee shall be kept onsite and made available to MCAQD upon request.
[County Rule 220 §302.7]
- e. To demonstrate the required management practices of Condition 16 are being met, the Permittee shall maintain records which must include, at a minimum. The following:
 - i. Oil and filter change dates and corresponding hour on the hour meter;
 - ii. Inspection and replacement dates for air cleaners, hoses, and belts; and
 - iii. Records of other emission-related repairs and maintenance performed.
[40 CFR §63.6655(e)(2)] [40 CFR §63.6660]

21. Reporting:

The Permittee shall comply with the following:

a. Low Sulfur Oil Verification:

If the Control Officer requests proof of the sulfur content of fuel burned in the engine(s), the Permittee shall submit fuel receipts, contract specifications, pipeline meter tickets, Material Safety Data Sheets (MSDS), fuel supplier information or purchase records, if applicable, from the fuel supplier, indicating the sulfur content of the fuel oil. In lieu of these, testing of the fuel oil for sulfur content to meet the applicable sulfur limit shall be permitted if so desired by the owner or operator for evidence of compliance.

[County Rule 220 §302.13, County Rule 324 §501.4]

b. Deviations from Maintenance Schedule:

Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. The Report shall be submitted to the Control Officer, Attn: Applied Science Division Manager, within 2 days after the date on which the maintenance operation was required to be performed. A subsequent report shall be submitted to the Control Officer within 2 days after the required maintenance operation is performed.

[Rule 220 §302.8] [40 CFR §63.6603(a)]

FUEL BURNING EQUIPMENT WITH INPUT CAPACITIES BETWEEN 10 - 100 MMBTU/HR

22. External Combustion Sources - Boilers:

- a. The Permittee may only use natural gas, butane and propane as fuels for boilers.
- b. Total annual facility-wide natural gas usage shall not exceed 122 million cubic feet based on a higher heat value of 1026 Btu per cubic foot of natural gas as measured by one or more fuel use meters.

[Rule 220 §302.2]

23. Opacity:

The Permittee shall not discharge into the ambient air from any single source of emissions any air contaminant, other than uncombined water, in excess of 20% opacity.

[Rule 323 §302]

24. Limitations – Nitrogen Oxides:

The Permittee shall establish initial optimal baseline concentrations for NO_x and CO within 90 days of the first usage of the combustion equipment utilizing the initial design burner specifications or manufacturer's recommendations to ensure good combustion practices. Tune the unit annually in accordance with good combustion practices or a manufacturer's procedure, if applicable, that will include the following at a minimum:

- a. Inspect the burner system and clean and replace any components of the burner as necessary to minimize emissions of NO_x and CO; and
- b. Inspect the burner chamber for areas of impingement and remove if necessary; and
- c. Inspect the flame pattern and make adjustments as necessary to optimize the flame pattern; and
- d. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly; and
- e. Measure the NO_x and the CO concentration of the effluent stream after each adjustment is made with a handheld portable monitor to ensure optimal baseline concentrations are maintained.

[Rule 323 §304.1]

25. Record Keeping & Reporting:

The Permittee shall comply with the requirements set forth in this permit. Any records and data required by this section shall be kept on site at all times in a consistent and complete manner and be made available without delay to the Control Officer or his designee upon request. Copies of reports, logs and supporting

documentation required by the Control Officer shall be retained for at least 5 years. Records and information required by this rule shall also be retained for at least 5 years. Records shall consist of the following information:

[Rule 323 §§501, 502]

- a. The Permittee shall record and maintain records of the amount of each fuel combusted during each calendar month. A monthly invoice from the fuel supplier may be used to demonstrate compliance with the requirement of this provision.

[40 CFR §60.48c(g)]

- b. Tuning Procedure: Date that the procedure was performed on the particular unit and at a minimum: stack gas temperature, flame conditions, nature of the adjustment and results of the nitrogen oxide and carbon monoxide concentrations obtained by using a handheld monitor after each adjustment.

[Rule 323 §501.4]

- c. Boilers for which construction, modification, or reconstruction is commenced after June 9, 1989 and have a maximum design heat input capacity greater than or equal to 10 million Btu/hr, but less than 100 million Btu/hr are subject to Title 40, Part 60, Subpart Dc of the Code of Federal Regulations (40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units).

[County Rule 360 §301.5 and 40 CFR §60.40(c)]

- i. The Permittee shall submit to the Control Officer notification of the date of construction and actual startup of any affected facility, as provided in 40 §CFR 60.7 and Paragraph b of this Permit Condition. This notification shall include:

- 1) The design heat input capacity of the boiler(s) and identification of fuels to be combusted in the affected facility.
- 2) The annual capacity factor at which the Permittee anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
- 3) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.
- 4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

[40 CFR §60.48c(a)]

- ii. The Permittee shall submit to the Control Officer notification of the date of construction or reconstruction, and actual startup of any affected facility, as follows:

- 1) A notification of the date construction or reconstruction of the affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
- 2) A notification of the actual date of initial startup of the affected facility postmarked within 15 days after such date.

[40 CFR §60.7]

GENERAL CONDITIONS

26. Posting of Permit:

This Permit shall be posted in a clearly visible and accessible location on the site where the equipment is installed.

[Rule 200 §312]

27. Compliance:

- a. The issuance of any Permit or Permit revision shall not relieve the Permittee from compliance with any Federal laws, Arizona laws, or the County or SIP Rules, nor does any other law, regulation or permit relieve the Permittee from obtaining a Permit or Permit revision required under the County Rules.
[Rule 200 §309][Rule 220 §406.3][Locally Enforceable Only]
- b. The Permittee shall comply with all conditions of this Permit including all applicable requirements of Federal laws, Arizona laws, and Maricopa County Air Pollution Control Rules and Regulations now in effect and as amended in the future. Any Permit noncompliance is grounds for enforcement action, Permit termination or revocation, or for denial of a renewal application. In addition, non-compliance with any federally enforceable requirements constitutes a violation of the Clean Air Act.
[A.A.C. R18-2-306.A.8.a][Locally Enforceable Only]
- c. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with these Permit Conditions.
[Rule 220 §302.10][A.A.C. R18-2-306.A.8.b][Locally Enforceable Only]
- d. Rights and Privileges: This Permit does not convey any property rights or exclusive privilege of any sort.
[Rule 220 §302.12][Locally Enforceable Only]
- e. Fees: The Permittee shall pay all fees to the Control Officer in accordance with Rule 280. No permit or permit revision is valid until the applicable permit fee has been received and until the permit is issued by the Control Officer.
[Rule 200 §409][Rule 280 §302][A.R.S. 49-480(D)][SIP Rule 28]

28. Malfunctions, Emergency Upsets, and Excess Emissions:

An affirmative defense of an emergency, excess emission, and/or during startup and shutdown shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence as outlined in Rule 130 for emergencies and Rule 140 for excess emissions.

[Rule 130 §§201, 400][Rule 140 §§400, 500][SIP Rule 140]

29. Revision / Reopening / Revocation:

The Permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any Permit Condition.

[Rule 220 §302.11][Locally Enforceable Only]

30. Records:

- a. The Permittee shall furnish information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing this permit, or terminating this permit, or to determine compliance with this permit. The information shall be provided in a timeframe specified by the Control Officer. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by this Permit. For information claimed to be confidential, the Permittee shall furnish a copy of such records directly to the Administrator along with a claim of confidentiality.
[Rule 220 §302.13][SIP Rule 40]
- b. If the Permittee fails to submit any relevant facts or has submitted incorrect information in a permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, the Permittee shall provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application is filed but prior to release of a proposed permit. Willful misrepresentation of facts in a permit application is cause for revocation or denial of a permit.
[Rule 220 §§301.5, 301.6][Locally Enforceable Only]

31. Right to Entry:

- a. The Control Officer during reasonable hours, for the purpose of enforcing and administering County or SIP Rules or the Clean Air Act, or any provision of the Arizona Revised Statutes relating to the emission or control prescribed pursuant thereto, may enter every building, premises, or other place, except the interior of structures used as private residences. Every person is guilty of a petty offense under A.R.S. 49-488 who in any way denies, obstructs or hampers such entrance or inspection that is lawfully authorized by warrant.
- b. The Permittee shall allow the Control Officer or his designated representatives, upon presentation of proper credentials (e.g., Maricopa County Air Quality Department identification) and other documents as may be required by law, to:
 - i. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept pursuant to the conditions of the permit;
 - ii. Have access to and copy, at reasonable times, any records that are required to be kept pursuant to the conditions of the permit;
 - iii. Inspect, at reasonable times, any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required pursuant to this permit;
 - iv. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the Permit or other applicable requirements; and
 - v. To record any inspection by use of written, electronic, magnetic, and photographic media.

[Rule 100 §105][Rule 220 §302.17-21][SIP Rule 43]

32. Severability:

The rules, paragraphs, clauses, provisions, and/or sections of this Permit are severable, and, if any rule, paragraph, clause, provision, and/or section of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.

[Rule 220 §302.9][SIP Rule 80]

Equipment List

MICROCHIP TECHNOLOGY INC

Permit Number 000089

Date Issued: 11/20/00

Revision: 3.0.0.0

Equipment Description	Rated Capacity	Quantity Exist/Future
FUEL BURNING		
1. BOILER - CLEAVER BROOKS MODEL CB 200-300	12.55 MM BTU/HR	2 / 2
2. BOILER - CLEAVER BROOKS MODEL 1700300150, INSTALLED 2000	12.25 MM BTU/HR	2 / 2
3. BOILER - RAYPAK HOT WATER	.39 MM BTU/HR	1 / 1
4. EQUIPMENT - THERMAL OXIDIZER ; UNITED MCGILL MODEL 3-41C404, 12,000 CFM, OR SIMILAR, ID #RTO 20-1, BACK-UP VOC ABATEMENT	1.60 MM BTU/HR	1 / 1
5. EQUIPMENT - ROTOR CONCENTRATOR/THERMAL OXIDIZER (RCTO), ID #RCTO 20-2, 15,000 CFM	2.30 MM BTU/HR	1 / 1
6. EQUIPMENT - POINT-OF-USE ABATEMENT DEVICE (FUEL BURNING	.10 MM BTU/HR	2 / 2
7. EQUIPMENT - POINT-OF-USE ABATEMENT DEVICE (FUEL BURNING ASSOCIATED WITH THE ALTERNATE OPERATING SCENARIO)		3 / 8
INTERNAL COMBUSTION ENGINES		
1. EMERGENCY GENERATOR - CATERPILAR MODEL 3406, ID #EPG-1, DIESEL, INSTALLED 1997	519.00 HP	1 / 1
2. EMERGENCY GENERATOR - CATERPILAR MODEL 3508, ID #EPG-2, DIESEL, INSTALLED 1997	1,199.00 HP	1 / 1
3. EMERGENCY GENERATOR - CATERPILAR MODEL 3508B, ID #EPG-3, DIESEL, INSTALLED 1997	1,489.00 HP	1 / 1
4. EMERGENCY GENERATOR - CATERPILAR MODEL 3508B, ID #EPG-4, DIESEL, INSTALLED 2000	1,489.00 HP	1 / 1
SCRUBBERS		
1. SCRUBBER - BEVERLY PACIFIC, ID #6-1 WAFER FAB	6,000.00 CFM	1 / 1
2. SCRUBBER - HARRINGTON, ID #6-2 WAFER FAB	10,000.00 CFM	1 / 1
3. SCRUBBER, WATER - TRIMER, ID #7-1 WAFER FAB	30,000.00 CFM	1 / 1
4. SCRUBBER - HARRINGTON, ID #9-1, 9-2, 9-3 WAFER FAB	30,000.00 CFM	3 / 3
5. SCRUBBER - VIRON, ID #15-1, 15-2, 15-3 WAFER FAB; ONLY TWO OPERATING AT A TIME	30,000.00 CFM	3 / 3
6. SCRUBBER - HARRINGTON, ID #15-4 WAFER FAB; PRE-SCRUBBER TO SCRUBBER ID #15-1, 15-2, 15-3	5,300.00 CFM	1 / 1
7. SCRUBBER - HARRINGTON, ID #7N-1 SUPPORT OPERATIONS	1,600.00 CFM	1 / 1
8. SCRUBBER - METCO, ID #11-1 SUPPORT OPERATIONS	9,000.00 CFM	1 / 1
9. SCRUBBER - HARRINGTON, ID #16-1, 16-2 SUPPORT OPERATIONS; ONLY ONE OPERATING AT A TIME	11,000.00 CFM	2 / 2
De Minimis Equipment:		
1. EQUIPMENT - COOLING TOWERS (NON-PROCESS)		/
2. EQUIPMENT - DIESEL GENERATOR STORAGE TANKS		/
3. EQUIPMENT - ELECTRIC OVENS (MINIMAL OR NO CHEMICALS)		/
4. EQUIPMENT - ABRASIVE BLASTING/GRINDING WITH NO OUTSIDE EXHAUST		/

Equipment List

MICROCHIP TECHNOLOGY INC

Permit Number 000089

Equipment Description	Rated Capacity	Quantity Exist/Future
De Minimis Equipment:		
5. EQUIPMENT - CHEMICALS AND GAS MANAGEMENT ACTIVITIES		/
6. EQUIPMENT - METAL SPUTTERING AND EVAPORATION		/
7. EQUIPMENT - RESEARCH AND DEVELOPMENT ACTIVITIES		/
8. EQUIPMENT - WASTEWATER TREATMENT AND ULTRAPURE WATER PRODUCTION OPERATIONS		/
9. EQUIPMENT - FURNACES USING HYDROGEN AND INERT GASES		/
10. EQUIPMENT - BOTTLE WASH STATION		/
11. EQUIPMENT - SOLVENT WASTE STORAGE TANKS, EACH WITH CARBON DRUMS ON THE VENT		/
12. ABRASIVE BLASTING EQUIPMENT - WITH DUST COLLECTOR, VENTED INDOORS	11.50 CU FT	1 / 1