



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

Date Stamped December 15, 2011

Mr. Joseph Yaris
M/A-COM Technology Solutions, Inc.
100 Chelmsford Street
Lowell, Massachusetts 01851

Re: Final Approval of LPA for
Non-Fuel Emissions
at M/A-COM Technology Solutions, Inc.
100 Chelmsford Street
Lowell, Massachusetts 01851
Transmittal No: X241054
Appl. No. MBR-11-IND-023

Dear Mr. Yaris:

The Metropolitan Boston/Northeast Regional Office of the Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has determined that the referenced Limited Plan Application ("LPA") is administratively complete and in conformance with current air pollution control engineering practices. The MassDEP approves this LPA for the installation and operation of two (2) new tools at your existing facility located at 100 Chelmsford Street in Lowell, Massachusetts.

The two new tools to be installed will be a single-wafer metal lift off processing unit (SSEC#3) and a photo resist stripping tool (Metal Resist Strip Station #2) that will use a resist strip solvent to strip un-cured resist from the wafer and another solvent to remove any of the remaining resist strip solvent. The solvents in both new tools contain volatile organic compounds (VOC) that will be captured and then controlled by an existing Turner Envirologic, Inc. regenerative thermal oxidizer (RTO). Prior to control, the subject tools have a potential VOC emission rate of 29.0 tons per year.

This LPA Approval is in accordance with 310 CMR 7.02(1), (3) and (4) of the Air Pollution Control Regulations ("Regulations"), 310 CMR 7.00, as adopted pursuant to M.G.L. c. 111, Sections 142A-142K.

Included as part of the LPA Approval are the following:

Stamped Approved **BWP AQ 01-B** Application Form;
General Conditions for Non- Fuel Utilization Facility LPA's;
Special Conditions;
and Appeal Rights.

Please review the entire LPA Approval carefully as it stipulates the conditions with which the facility owner/operator must adhere for the facility to be constructed/reconstructed/altered and operated in compliance with the Regulations.

The MassDEP has determined that the filing of an Environmental Notification Form ("ENF") with the Secretary of Energy & Environmental Affairs, for air quality purposes, was not required prior to this action by the MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act and Regulation 301 CMR 11.00, section 11.04, provide certain "Fail-Safe Provisions" which allow the Secretary to require the filing of an ENF and/or Environmental Impact Report at a later time.

Should you have any questions concerning this Approval, please contact Mr. Mun Wong at (978) 694-3200 or at MassDEP, 205B Lowell Street, Wilmington, MA 01887.

Very truly yours,

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Mun S. Wong
Environmental Engineer
Bureau of Waste Prevention

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

James E. Belsky
Permit Chief
Bureau of Waste Prevention

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cc: Board of Health, 341 Pine Street, Lowell, MA 01854
Fire Headquarters, 99 Moody Street, Lowell, MA 01852
DEP, Boston, Yi Tian (e-copy)
Marc Altobelli, Mary Persky, Mun Wong, DEP, NERO

Attachment: BWP AQ 01-B LPA

GENERAL CONDITIONS FOR NON-FUEL EMISSION LPA's

1. Operation - No person shall operate a facility constructed, substantially reconstructed, or altered pursuant to 310 CMR 7.02(1), (3) and (4) except in conformance with the requirements established therein and in conformance with the specific written plan approval requirements.
2. Record keeping – A recordkeeping system shall be established and continued on site. All records shall be maintained up-to-date such that year-to-date information is readily available for MassDEP examination. Recordkeeping shall, at a minimum, include:
 - a) The initiation and completion dates for the proposed construction/reconstruction/alteration.
 - b) Maintenance. A record of routine maintenance activities including, at a minimum, a description of the maintenance performed and the date and time the work was completed.
 - c) Malfunctions. A record of all malfunctions including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the facility returned to compliance.
 - d) Records shall be maintained documenting the air contaminant emission analysis supporting the response to BWP AQ 01-B Section-C.
 - e) All records shall be kept on site for five (5) years from date of record and shall be made available to the MassDEP upon request.
3. Reporting - Any construction, substantial reconstruction or alteration, as described in 310 CMR 7.02(1), (3) and (4), at a facility subject to the reporting requirements of 310 CMR 7.12, shall be reported to the MassDEP on the next required source registration.
4. The MassDEP may revoke, in accordance with 310 CMR 7.02(3)(k), any plan approval if the actual construction has not begun within two years from the date of issuance or if, during the construction, the construction is suspended for the period of one year or more.
5. Noise from the facility during construction, initial startup and routine operation, including startups and shutdowns, shall not exceed the MassDEP noise guidelines and shall not cause a condition of air pollution as defined in 310 CMR 7.01 and 7.10.
6. The Regional Bureau of Waste Prevention office must be notified by telephone or fax as soon as possible after the occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment which result in an excess emission to the air and a condition of air pollution.
7. The facility shall be constructed and operated in a manner to prevent the occurrence of dust or odor conditions which may cause or contribute to a condition of air pollution as defined in 310 CMR 7.01 and 7.09.
8. This Final Approval does not negate the responsibility of owner/ operator of the referenced facility to comply with this or any other applicable federal, state, or local regulations now or in the future.

9. This Approval may be suspended, modified, or revoked by the MassDEP if, at any time, the MassDEP determines that the facility is violating any condition or part of this LPA Approval. The MassDEP shall be notified in writing prior to any modification of the facility such as a change in raw materials or an increase in production capacity, which may increase emissions.
10. Should asbestos remediation/removal be required as a result of the approved construction/reconstruction/or alteration of this facility, such asbestos remediation/removal shall be done in accordance with Regulation 310 CMR 7.15 in its entirety and 310 CMR 4.00.
11. The MassDEP must be notified in writing, when the subject equipments has been installed and has been deemed ready for continuous operation, within fourteen days (14) thereof.
12. Opacity, exclusive of uncombined water, shall not exceed 10% at all times during all modes of operation, including startups and shutdowns. Visible emissions or opacity, which exceed the limits set forth in this approval, shall be reported to the MassDEP in writing or by fax within seven (7) days of the occurrence.
13. Emission Testing – The MassDEP may, in accordance with Regulation 310 CMR 7.13, require source emission testing (“stack testing”). All emission testing shall be conducted in accordance with the MassDEP’s Guidelines for Source Emission Testing and with 310 CMR 7.13.
14. The facility shall be constructed and operated in strict accordance with the application approved herein. Should there be any differences between the aforementioned application and this approval letter, this approval letter shall govern.

SPECIAL CONDITIONS

1. M/A-COM Technology Solutions, Inc. shall take immediate steps to abate any nuisance condition(s), including but not limited to visible emissions, noise, and odor, that maybe generated by the operation of the subject facility.
2. M/A-COM Technology Solutions, Inc. shall comply with the volatile organic compounds (VOC) emission limits contained in Table 1.

Table 1		
Description of Tool	Monthly Allowable VOC Limit	Twelve Month Rolling Allowable VOC Limit
New single-wafer metal liftoff processing unit (SSEC#3)	0.10 ton	0.50 ton
New photo resist stripping tool (ACT-412)	0.10 ton	0.20 ton
Combined Enforceable Emissions from both new tools, after control	0.20 ton	0.60 ton

3. The captured emissions from the two new tools shall be continuously controlled by the existing Turner Envirollogic RTO at your subject facility. The minimum capture efficiency for each tool shall be 100% and the minimum VOC control efficiency shall be 98% by weight.
4. The minimum set point temperature for the existing RTO shall be 1450°F, or such temperature as to maintain a minimum VOC control efficiency of 98%, by weight, as demonstrated by the compliance emissions tests required in the Final Approval of Application No. MBR-06-IND-014 and Transmittal No. W080889.
5. M/A-COM Technology Solutions, Inc. shall submit, in writing, an Exceedance Report to MassDEP should the facility exceed any emission limit specified in Table 1 of Special Condition No. 2 or fail to comply with Special Condition No. 3. Said Exceedance Report shall be submitted within seven (7) days of determination of the exceedance of the limitation/restriction. The Exceedance Report shall include identification, duration, and reason for the exceedance, and the remedial action plan to prevent future exceedances.
6. If an RTO upset occurs, which lasts for more than 15 minutes, then M/A-COM Technology Solutions, Inc., shall discontinue production operation until the RTO and any associated equipment in question are repaired and operating properly. If there is a batch of wafers in either of the tools when such an upset occurs, that batch of wafers may be processed, but no other batches shall be processed until the RTO and any associated equipment in question are repaired and operating properly.
7. Should the RTO become inoperable for more than 15 minutes during production operations, for any reason, M/A-COM Technology Solutions, Inc. shall notify MassDEP within 24 hours by fax, attention Bureau of Waste Prevention Compliance and Enforcement Chief, at (978) 694-3499, and subsequently in writing within seven (7) days of occurrence describing the reason(s) for and the extent of down time of the equipment and all steps that have been or will be taken to prevent said occurrence from recurring..
8. All VOC containing materials, such as solvents, inks, and clean-up solutions, shall be transported and stored in tightly covered containers.
9. All cleaning rags used in conjunction with the cleaning solutions shall be placed in tightly covered containers when not in use, and shall be collected for proper recycling or disposal.
10. M/A-COM Technology Solutions, Inc. shall maintain adequate on-site records to document compliance with the emission limits specified in Table 1 of Special Condition No. 2 above. Said records shall be made available to MassDEP personnel upon request, and shall be kept on site for a minimum of five (5) years. An electronic Microsoft Excel version of the MassDEP approved format required to be used can be obtained at <http://www.mass.gov/dep/air/approvals/aqforms.htm#report>.
11. M/A-COM Technology Solutions, Inc. shall follow the Standard Operating and Maintenance Procedures (SOMP) for the two new tools and the existing RTO at the subject facility so as to maintain their efficient operation and to minimize the discharge of VOC.
12. This Approval consists of the application materials and this Approval letter as well as the application material associated with Application No. MBR-11-IND-23. If conflicting information is found between these documents, then the requirements of the Approval letter shall take precedence over the documentation in the application materials.

APPEAL OF APPROVAL

This Approval is an action of the MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P. O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

The filing fee is not required if the appellant is a city of town (or municipal agency) county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

The MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.