



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

DEVAL L. PATRICK
Governor

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Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

October 19, 2011

Alan Stratton
Solutia Inc.
730 Worcester Street
Springfield, MA 01151

Re: PVAPCD – Springfield
Regulation 310 CMR 7.02(4)
Appl.#1-P-10-041; Trans. # X235609
**South Butvar Storage Tank
Condenser Upgrade**

FINAL APPROVAL

Dear Mr. Stratton:

The Department of Environmental Protection, Western Regional Office ("MassDEP") has determined that the referenced Limited Plan Application ("LPA") is administratively and technically complete and in conformance with current air pollution control engineering practices. MassDEP approves the referenced LPA authorizing the proposed installation/replacement and subsequent operation of ten (10) storage tank chilled condensers in the South Butvar process by Solutia Inc. ("Solutia") at their facility located in Springfield, Massachusetts.

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

Included as part of the LPA Approval are the following:

General Conditions for Non-Fuel Emission LPAs,
Appeal Rights, and
Special Conditions (if any).

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

The MassDEP has determined that the filing of an Environmental Notification Form (“ENF”) with the Secretary of 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 11.03, 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 Final Approval, please contact John Kirzec at (413) 755-2225.

Sincerely,

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.

Marc Simpson
Permit Chief
Western Region

JK/jk
Solutia 2011-10-19 lpa.doc

cc: Yi Tian, DEP
One Winter Street
Boston, MA 02108

Peter Czapienski, WERO

MassDEP received on November 23, 2010 a Limited Plan application from Solutia, Inc. for the replacement of vent condensers on ten (10) storage tanks that are part of the South Butvar manufacturing process in Tank Pit 7. The vent condensers were originally approved on April 29, 1986 in MassDEP Approval #PV-86-IF-004. The approval specified the chilled glycol flow rate for each condenser that achieved an estimated the VOC removal efficiency of 80%.

Solutia has stated that over the past 24 years, these vent condensers have become increasingly difficult to maintain. Replacement parts were not available and excessive maintenance was required to minimize leaks to satisfy leak detection and repair standards.

In October 2010, Solutia installed new chilled vent condensers on ten (10) of the South Butvar storage tanks. Since there was a decrease in potential VOC emissions resulting from this project, no plan approval application was required by MassDEP, but Solutia submitted this plan approval application in order to document the revised chilled condenser glycol flow rates and as a basis for a forthcoming Minor Modification to the facility Air Quality Operating Permit.

The new condensers, manufactured by API Basco, are specifically sized for the composition of material in each storage tank, the maximum throughput of material and storage conditions of the tank contents. Solutia used a computer model (ChemCAD simulation using a modified Rach-Ford Rice equation) in order to determine an optimum chilled glycol flow rate to maximize VOC removal efficiencies. Solutia targeted a VOC removal efficiency of 98.5% for these condensers, but this rate could not be achieved due to the difficulty in removing alcohol in the presence of nitrogen which is used for inerting.

Table 1 summarizes the emission changes resulting from the condenser replacement project.

**Table 1
 Emission Changes From Replacing Ten (10) South Butvar Condensers**

Emission Unit – 142 S08		Former Condensers			New Condensers			Emission Change (tpy)
Stack Number	Tank Description	glycol flow (gpm)	Removal efficiency	Potential Emissions	glycol flow (gpm)	Removal efficiency	Potential Emissions	
TP7 T605	A-Alcohol Storage Tank	3.4	80%	0.09	0.8	≥ 90%	0.04	-0.05
TP7 T608	B-Alcohol Storage Tank #1	3.4	80%	0.29	3.0	≥ 90%	0.15	-0.14
TP7 T609	B-Alcohol Storage Tank #2	3.4	80%	0.29	3.0	≥ 90%	0.15	-0.14
TP7 T601	Ethanol (SD-29) Storage Tank	6.7	80%	0.19	7.9	≥ 90%	0.09	-0.10
TP7 T603	B-Crude Storage Tank #1	13.7	80%	0.23	11.0	78%	0.25	+0.02
TP7 T604	B-Crude Storage Tank #2	13.7	80%	0.23	11.0	78%	0.25	+0.02
TP7 T627	Ethyl Acetate Off-Grade Storage Tank	3.4	80%	0.07	7.9	≥ 90%	0.03	-0.04
TP6 T600	Bulk Ethyl Acetate Storage Tank	3.4	80%	1.20	7.5	≥ 90%	0.90	-0.30
TP7 T602	A-Crude Storage Tank #1	13.7	80%	0.41	6.3	≥ 85%	0.20	-0.21
TP7 T614	B-Heads Storage Tank	3.4	80%	0.12	1.9	≥ 90%	0.06	-0.06
Total				3.12 tpy			2.12 tpy	1.00 tpy

Please be advised that all other provisions of previous plan approvals issued by MassDEP for these emission points shall remain in full force, except as specifically modified herein.

Special Provisions of Approval

1. Solutia shall ensure that the condensers associated with the stack numbers listed in Table 1 are operated at or above the chilled glycol flow rates specified therein.
2. Solutia shall monitor condenser glycol flow rate at least once per calendar month.
3. Solutia shall ensure that a Minor Modification of the facility's Title V Air Quality Operating Permit is submitted to MassDEP in accordance with the "Regulations".

General Provisions of Approval

1. In accordance with 310 CMR 7.12, Solutia shall maintain records required to determine the nature and amounts of emissions from the facility.
2. Records kept to demonstrate compliance must be kept on site for five (5) years, and must be made available to representatives of MassDEP upon request.
3. If asbestos remediation/removal are required as a result of the approved construction, reconstruction, or alteration of this facility, removal/remediation of asbestos shall be done in accordance with Regulation 310 CMR 7.15 in its entirety and 310 CMR 4.00.
4. In accordance with 310 CMR 7.12, Solutia shall report the resulting emissions from the facility approved herein on subsequent source registrations. Source registration shall be submitted to MassDEP annually.
5. Solutia shall allow authorized MassDEP representatives immediate access to the facility in order to take samples, view the process operation or examine records to verify compliance.
6. This approval may be suspended, modified, or revoked by MassDEP if, at anytime, MassDEP determines that any condition or part of this Approval is being violated.
7. Solutia shall keep records of any information it receives relative to reducing emissions or implementing pollution prevention techniques. Solutia shall document any progress toward decreasing overall emissions to the environment. These records shall be made available to MassDEP upon request.
8. Solutia shall operate the facility in a manner to minimize the occurrence of visible emissions, which cause or contribute to a condition of air pollution as defined in Regulation 310 CMR 7.01 and 7.06.

9. Solutia shall ensure the facility is operated in a manner to minimize the occurrence of dust or odor conditions, which cause or contribute to a condition of air pollution as defined in Regulation 310 CMR 7.01 and 7.09.
10. Solutia shall ensure that noise from the facility during routine operation, including startups and shut downs, shall not exceed MassDEP noise guidelines and shall not cause a condition of air pollution as defined in Regulation 310 CMR 7.01 and 7.10.
11. The facility shall be constructed and operated in strict accordance with the application approved herein. Should there be any differences between the General Conditions or the aforementioned application, and this approval letter, this approval letter shall govern.
12. This Approval pertains only to the air quality control aspect of the proposal and does not negate the responsibility of the owners or operators to comply with other applicable state, local, or federal laws and regulations.
13. All notifications and reporting required by this Final Approval shall be made to the attention of:

Department of Environmental Protection
Western Region
436 Dwight Street
Springfield, Massachusetts 01103
ATTN: Permit Section Chief

Telephone: (413) 755-2115
Fax: (413) 784-1149

MassDEP has determined that the filing of an Environmental Notification Form ("ENF") with the Secretary of Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) 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 an Environmental Impact Report (EIR) at a later time.

This Final Approval consists of the application materials and this Approval letter. If conflicting information is found between these two documents, then the requirements of this Approval letter shall take precedence over the documentation in the application materials.

Appeal Rights

This Final Approval is an action of 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 you received this document.

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 Final Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100) 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 or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

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.