



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

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Commissioner

July 16, 2014

Mr. Peter Breed
Vitasoy USA Inc.
One New England Way
Ayer, MA 01432

RE: Ayer
Transmittal No.: X261441
Application No.: CE-14-015
Class: *SM-50*
FMF No.: 291979
AIR QUALITY PLAN APPROVAL

Dear Mr. Breed:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Waste Prevention, has reviewed your Limited Plan Application (“Application”) listed above. This Application concerns the proposed construction and operation of air treatment scrubbers serving the wastewater and solid waste processing at your food processing facility located at One New England Way in Ayer, Massachusetts (“Facility”).

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

A. FACILITY DESCRIPTION

The Permittee operates the Facility, which processes soybeans to produce soy milk, tofu, and other soybean products. Soybeans are received, soaked in water, then ground and cooked. The resulting milk and bean residue is then separated. The milk is further processed to make various products and packaged. The bean residue is dried and sold as animal feed.

The manufacturing process generates large volumes of industrial wastewater containing high concentrations of solids and biodegradable material. The wastewater is pretreated onsite prior to sewer discharge. The current wastewater treatment process uses a re-circulating packed bio-tower to remove Biochemical Oxygen Demand (“BOD”) and Chemical Oxygen Demand (“COD”), followed by a clarifier to reduce solids. The wastewater and wastewater treatment sludge in process contain odorous compounds (primarily hydrogen sulfide) which can potentially be released to the ambient air. In addition, handling and disposal of the wastewater treatment sludge has the potential to release odorous compounds to the air.

B. PERMITTING HISTORY

On July 15, 1997, the Permittee began operating the Facility at One New England Way, their current location. Prior to that time, the property was occupied by New England Shrimp Company, which operated three scrubbers approved by MassDEP to control odors generated by wastewater treatment operations. The Permittee currently operates the same three scrubbers for the same purpose.

The Permittee and MassDEP entered into an Administrative Consent Order, ACOP-CE-07-9013-27A executed on April 9, 2007. The Consent Order required, in part, that the Permittee cease generating off-site odor (a condition of air pollution).

On July 25, 2007, MassDEP issued Plan Approval Transmittal No. W121286 for the okara dryer and associated baghouse to control particulate emissions. The okara dryer is designated as Emission Unit (EU) #1 and is not affected by this project and Plan Approval.

Following the Consent Order, MassDEP received numerous odor complaints against the Facility, and as a result MassDEP sent a letter dated January 28, 2008 to the Permittee requiring a new Air Quality Plan Approval for the odor treatment system. On August 3, 2010, MassDEP issued Plan Approval Transmittal No. W216808 for the odor treatment system.

Since 2010, MassDEP received additional odor complaints relating to the Permittee. On October 2, 2013, the Permittee and MassDEP entered into ACOP-CE-13-9015-7A to resolve the situation. In response to this ACOP, the Permittee proposed a new replacement wastewater treatment system with two new scrubbers for odor control.

C. PROJECT DESCRIPTION

This Plan Approval Transmittal No. X261441 is for the following equipment:

- A new higher-efficiency Biowater wastewater treatment system.
- A new 1,500 cfm scrubber to treat wastewater treatment aeration air.
- A new 10,000 cfm scrubber to treat exhaust air from the Alar sludge dewatering room, plus other equipment and locations in the Facility that have the potential to generate significant nuisance odors.
- Decommissioning of the old WWT system and scrubbers.

This Plan Approval Transmittal No. X261441 supersedes and replaces Plan Approval Transmittal No. W216808.

D. REGULATORY CONSIDERATIONS

The Facility is subject to the requirement for Best Available Control Technology (“BACT”) for this project. MassDEP has determined that BACT for this project consists of the use of scrubbers with a minimum control efficiency of 99.5% or a hydrogen sulfide outlet concentration not to exceed 0.1 parts per million by volume.

Hydrogen sulfide (H₂S) is not a listed Hazardous Air Pollutant (HAP), and therefore this project is not subject to any of the regulations under 40 CFR Parts 61 and 63 for HAP.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval. In addition, the Facility has EU #1, the okara dryer, which remains subject to the requirements of Plan Approval Transmittal No. W121286.

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
2	Two wastewater treatment vessels	n/a	1,500 cfm scrubber
3	Alar sludge processing plus other odor sources	n/a	10,000 cfm scrubber

Table 1 Key:

EU# = Emission Unit Number
 PCD = Pollution Control Device
 cfm = Cubic feet per minute

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
2	1. None	H ₂ S	0.0017 TPY, 0.00014 TPM (Note1) 99.5% removal or 0.1 ppm, whichever is less stringent
3	2. None	H ₂ S	0.0114 TPY, 0.00095 TPM (Note 1) 99.5% removal or 0.1 ppm, whichever is less stringent
Facility-wide	3. None	Odors (causing a condition of Air Pollution)	None

Table 2 Notes:

Note 1: The monthly hydrogen sulfide emissions shall be calculated using the monthly average of the stack H₂S readings and the stack gas flow rates measured during the emission testing. Prior to the emission testing, the nominal air flow rates of 1,500 (for EU #2) and 10,000 (for EU #3) standard cubic feet per minute shall be used.

Table 2 Key:

EU# = Emission Unit Number
 H₂S = Hydrogen sulfide
 TPM = tons per month
 TPY = tons per consecutive 12-month period
 ppm = parts per million by volume
 % = percent

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU#	Monitoring and Testing Requirements
2 & 3	1. The scrubbers shall be monitored to demonstrate compliance with the conditions specified in Table 6, items 1 through 4, for each emission unit.
	2. The exhaust stack hydrogen sulfide levels shall be continuously monitored.
	3. Not later than 150 days after initial startup of EU #2 & 3, and then once every five years thereafter, the Permittee shall conduct emissions compliance testing on the scrubbers to demonstrate compliance with the emission limits contained in Table 2. Testing shall be conducted in accordance with the requirements and procedures set forth by appropriate EPA Reference Test Methods, 40 CFR 60 Appendix A, modified as necessary to accurately measure H ₂ S, and 310 CMR 7.13.
Facility-wide	4. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	5. If and when MassDEP requires it, the Permittee shall conduct additional emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13

Table 3 Key:

EU# = Emission Unit Number

USEPA = United States Environmental Protection Agency

H₂S = Hydrogen sulfide

Table 4	
EU#	Record Keeping Requirements
2 & 3	<p>1. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping.</p> <p>2. The Permittee shall maintain records of monitoring and testing as required by Table 3, and monitoring, calibration, and maintenance as called for in the SOMP described in Table 6.</p> <p>3. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) and PCD(s) approved herein on-site.</p> <p>4. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.</p> <p>5. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and PCD(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.</p> <p>6. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.</p> <p>7. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.</p>
Facility-wide	<p>8. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.</p>

Table 4 Key:

EU# = Emission Unit Number
 PCD = Pollution Control Device
 SOMP = Standard Operating and Maintenance Procedure
 USEPA = United States Environmental Protection Agency

Table 5	
EU#	Reporting Requirements
Facility-wide	1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a “Responsible Official” as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	2. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845, email: CERO.Air@massmail.state.ma.us or fax : 508-792-7621, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	3. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	4. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP’s request.
	5. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	6. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:

EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee is subject to and shall comply with the Special Terms and Conditions as contained in Table 6:

Table 6	
EU#	Special Terms and Conditions
2	1. The scrubber water recirculation flow shall be maintained at no less than 23 gpm.
3	2. The scrubber water recirculation flow shall be maintained at no less than 155 gpm.
2 & 3	3. The scrubbing liquid pH shall be maintained between 8.5 and 10.5 for each scrubber.
2 & 3	4. The scrubbing liquid ORP shall be maintained between 550 and 650 millivolts for each scrubber.
2 & 3	5. The scrubber stacks shall each have continuous H ₂ S monitors installed, maintained, and continuously operating.
2 & 3	6. Each scrubber shall have at least one clear sight glass window installed in the packing section so that the condition of the packing and the flow of scrubbing liquid can be easily observed from ground level.
2 & 3	7. The Permittee shall prepare and submit to MassDEP, within 30 days of startup of the approved equipment, a proposed Standard Operating and Maintenance Plan (SOMP) for the odor control systems. The SOMP shall provide for the following at a minimum: <ul style="list-style-type: none"> a) Type and frequency of pH and ORP monitoring. b) Periodic calibration of all measuring devices, including the scrubber liquid flowmeters, the pH and ORP meters, and the stack H₂S monitors. c) Periodic checking and maintenance of the scrubber spray nozzles. d) Periodic checking of the condition of the scrubber packing, and proposed schedule for cleaning and/or replacing the packing. After MassDEP accepts the SOMP, the Permittee shall document that it is following the SOMP.
Facility-wide	8. This Plan Approval shall replace and supersede Plan Approval Transmittal No. W216808.
Facility-wide	9. Any prior Plan Approvals issued under 310 CMR 7.02 shall remain in effect unless specifically changed or superseded by this Plan Approval. The Facility shall not exceed the emission limits and shall comply with approved conditions specified in the prior Plan Approval(s) unless specifically altered by this Plan Approval.

Table 6 Key:

- EU# = Emission Unit Number
- pH = the standard measurement of acidity of a water solution
- ORP = Oxidation-Reduction Potential
- H₂S = Hydrogen sulfide
- gpm = gallons per minute

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part

or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters.”

- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
2	38.5	0.833	45	Ambient
3	38.5	2.167	45	Ambient

Table 7 Key:

EU# = Emission Unit Number

°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & 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 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.

7. APPEAL PROCESS

This Plan 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 of issuance of this Plan 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 Plan 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 (\$100.00) must be mailed to:

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

This 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.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Paul Dwiggins by telephone at 505-767-2760, or in writing at the letterhead address.

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.

Roseanna E. Stanley
Acting Permit Chief
Bureau of Waste Prevention

Enclosure

ecc: Ayer Board of Health boh@ayer.ma.us
Ayer Fire Department firechief@ayer.ma.us
MassDEP/Boston - Yi Tian
Peter Boyle, Biowater