



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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KENNETH L. KIMMELL  
Commissioner

February 21, 2014

Mr. Craig Bardsley  
The Weetabix Company, Inc  
20 Cameron Street  
Clinton, MA 01510

**RE: Clinton**  
Transmittal No.: X259170  
Application No.: CE-14-032  
Class: NM99  
FMF No.: 133132  
**AIR QUALITY PLAN APPROVAL**

Dear Mr. Bardsley,

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 installation and operation of the thermal oxidizer at your cereal manufacturing facility located at 20 Cameron Street in Clinton, 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**

The Weetabix Company, Inc. is a ready-to-eat breakfast cereal manufacturing facility at 20 Cameron Street, Clinton in business since 1940. The Facility operates several cereal production lines, and the principal products include bran, wheat, and oatmeal flakes; corn and whole wheat flakes; crisp rice; puffed oat hoops; and coated cereals. The gun puffing line and its associated fuel utilization units were permitted under the Limited Plan Approval, Transmittal Nos.: W002343 and W002342, respectively, on October 21, 1998. Cyclones and/or baghouses are employed throughout the production lines to control particular matter (“PM”) emissions from the processes.

The rice production line was installed in 1940. The catalytic thermal oxidizer for the rice toasters was introduced in 1999 but decommissioned in 2007 without any plan approval. The corn production line was installed in 1993. The Facility is proposing a reconfiguration by combining rice and corn cereal production on the corn production line and decommissioning the rice production line. The thermal oxidizer (“TO”) from the existing rice line will be incorporated into the corn/rice line to further control PM emission and smoke.

The corn/rice line is a batch cook process. The cooked grains are dried, milled, and toasted in the toaster before being further processed and packaged. The toaster has two hot air exhausts that vent through cyclones and will then be routed to the natural gas-fired TO. The TO is manufactured by HiTemp Technology Corporation, with a capacity of 4,300 standard cubic foot per minute and a maximum heat input rate of 6.45 million British thermal units per hour. The oxidizer will have a PM destruction efficiency of 95% with a combustion chamber temperature of at least 1400 degrees Fahrenheit (“°F”) and residence time of 1.0 second. The TO shall be exhausted through a 24 inch vertical ceramic lined stack 29 feet above the roof line, topped by a stainless steel “no-loss” rain stack.

This Plan Approval is only for the installation and operation of the thermal oxidizer at the corn/rice toasters to serve for the reconfiguration of the corn/rice line. The rest of the Facility will be operated without any other modification. Additional Plan Approvals may be necessary depending on the recent stack testing results, and their potential emissions at each emission units.

MassDEP has determined that 95% overall destruction efficient for PM meets top case Best Available Control Technology (“BACT”) requirement.

## 2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

<b>Table 1</b>			
<b>EU#</b>	<b>Description</b>	<b>Design Capacity</b>	<b>Pollution Control Device (PCD)</b>
1	Corn/Rice Toaster	1913 pounds per hour	Two Cyclones, Thermal Oxidizer

**Table 1 Key:**

EU# = Emission Unit Number

## 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:

<b>Table 2</b>			
<b>EU#</b>	<b>Operational / Production Limit</b>	<b>Air Contaminant</b>	<b>Emission Limit<sup>1, 2</sup></b>
1		PM	0.2 lb/hr, <1.0 TPY Destruction Efficiency: 95%
		Opacity	0%

**Notes:**

1. lb/hr and TPY emission rates shall be calculated based on:  
*The emission factor is 5.00 pounds PM emitted per ton of cereal produced. This includes both condensable and non-condensable particulate.*
2. The destruction efficiency of 95% or an emission rate of 0.2 lb/hr, whichever is less stringent, shall be met.

**Table 2 Key:**

EU# = Emission Unit Number

PM = Particulate Matter having a diameter of 10 microns or less (PM10) and particulate matter having a diameter of 2.5 microns or less (PM2.5). It includes both condensable and non-condensable particulates

lb/hr = pounds per hour

TPY = tons per consecutive 12-month period

**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:

<b>Table 3</b>	
<b>EU#</b>	<b>Monitoring and Testing Requirements</b>
1	<ol style="list-style-type: none"> <li>1. Within 180 days of initial operation of the TO, the Permittee shall perform compliance stack testing of the TO for PM emissions to demonstrate compliance with the emission limits noted in Table 2. The testing shall be scheduled on a date mutually agreed upon with MassDEP.</li> <li>2. Subsequent to the initial compliance demonstration, the Permittee shall conduct compliance emissions testing of the TO every five (5) years.</li> <li>3. Compliance with the allowable opacity limits shall be determined in accordance with EPA Method 9, as specified in 40 CFR 60, Appendix A.</li> <li>4. The combustion chamber temperature in the TO shall be monitored and recorded continuously.</li> <li>5. The temperature indicator light at the control room and an audible alarm to be triggered when TO temperature drops below optimum range shall be in an accurate operating condition.</li> <li>6. Product throughput should be monitored sufficiently to demonstrate compliance with emission limits noted in Table 2.</li> <li>7. Monitoring equipment or emission monitoring systems installed for the purpose of documenting compliance with this Plan Approval shall be installed, calibrated, maintained and operated by the Permittee in sufficient manner to ensure continuous and accurate operations at all times.</li> </ol>
Facility-wide	<ol style="list-style-type: none"> <li>8. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.</li> <li>9. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13</li> </ol>

**Table 3 Key:**

EU# = Emission Unit Number

TO = thermal oxidizer

PM = Particulate Matter having a diameter of 10 microns or less (PM10) and particulate matter having a diameter of 2.5 microns or less (PM2.5). It includes both condensable and non-condensable particulates

USEPA = United States Environmental Protection Agency

<b>Table 4</b>	
<b>EU#</b>	<b>Record Keeping Requirements</b>
1	1. The Permittee shall maintain daily material throughput records
Facility-wide	2. 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 15 <sup>th</sup> day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at <a href="http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping">http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping</a> .
	3. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	4. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU and PCD approved herein on-site.
	5. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU, PCD 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.
	6. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU, PCD 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.
	7. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	8. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	9. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

**Table 4 Key:**

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

<b>Table 5</b>	
<b>EU#</b>	<b>Reporting Requirements</b>
1	1. The Permittee shall notify the MassDEP in writing within 60 days when the reconfiguration of the production line, oxidizer and associated ductwork and monitoring equipment are installed and deemed operational.
Facility-wide	2. 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).
	3. 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).
	4. The Permittee shall report <b>every three years</b> 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.
	5. 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.
	6. 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.
	7. 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:

<b>Table 6</b>	
<b>EU#</b>	<b>Special Terms and Conditions</b>
1	1. A minimum combustion temperature of 1400°F shall be maintained at the TO outlet, or the temperature at which compliance stack testing (utilizing EPA approved methods) verifies compliance with the emission limits noted in Table 2. 2. Annual burner inspection shall be conducted to maintain proper burner operation and efficiency. 3. The TO shall utilize only natural gas. 4. The TO shall be operated at all times while the toaster is in operation and shall not be bypassed at any time. An interlock shall be maintained in proper condition to prevent the toaster from operating until the TO operates at optimum temperature. 5. In the event of an upset, malfunction, or non-routine maintenance of the TO, the Permittee may continue to operate the toaster without the TO in order to allow the completion of the current batch production run.
Facility-wide	6. 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  
 °F = Degree Fahrenheit  
 TO = Thermal Oxidizer

- 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:

<b>Table 7</b>				
<b>EU#</b>	<b>Stack Height Above Ground (feet)</b>	<b>Stack Inside Exit Dimensions (inch)</b>	<b>Stack Gas Exit Velocity Range (feet per second)</b>	<b>Stack Gas Exit Temperature Range (°F)</b>
1	74	24	23	800 - 1400

**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. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. 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 Hui Liang by telephone at 508-767-2762, 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.*

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Roseanna E. Stanley  
Acting Permit Chief  
Bureau of Waste Prevention

#### Enclosure

ecc: Clinton Board of Health  
Clinton Fire Department  
MassDEP/Boston - Yi Tian  
Christopher A. Walton, PE, BCEE, Capaccio Environmental Engineering, Inc.