



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

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October 6, 2015

Mr. Stephen Holcomb
Bay State Gas
(d/b/a Columbia Gas of Massachusetts)
801 East 86th Avenue
Merrillville, IN 46410

RE: West Springfield
Transmittal No.: X266491
Application No.: WE-15-010
Class: *SM-50*
FMF No.: 400115
AIR QUALITY PLAN APPROVAL

Dear Mr. Holcomb:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Air and Waste, has reviewed your Limited Plan Application (“Application”) listed above. This Application concerns the proposed construction and operation of a natural gas-fired propane vaporizer (a boiler) at your gas utility facility located at 1275 Union Street Extension in West Springfield, 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-J, 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. **This Plan Approval supersedes Plan Approval #1-B-07-048 dated November 1, 2007.**

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.

DESCRIPTION OF FACILITY AND APPLICATION

The Bay State Gas –West Springfield Station (Bay State Gas) came under the ownership of Columbia Gas of Massachusetts in 2010. The facility previously obtained Plan Approval #1-B-07-048 (dated 11/1/2007) for the construction and operation of two propane vaporizers; one rated at 11.4 million British thermal units per hour ((MMBtu/hr) and one at 11.975 MMBtu/hr. Both vaporizers were fired on liquefied petroleum gas (LPG). They have been replaced by one 10.91 MMBtu/hr natural gas-fired propane vaporizer manufactured by Total Energy Resources, Inc. (TERI).

The propane vaporization unit was constructed in December 2014. It is a firetube boiler that has a heat input rating of over 10 MMBtu/hr utilizing natural gas and so is subject to either 310 CMR 7.26(30-37), the Environmental Results Program (ERP) for boilers, or 310 CMR 7.02(4), Limited Plan Application.

Emission factors were provided to Bay State Gas by the vendor of the boiler unit. The boiler meets all of the ERP emission limitations except for that of nitrogen oxide (NO_x). The ERP NO_x emission limit is currently 0.0350 pounds per million British thermal units (lb/MMBtu) and the proposed boiler is rated by the vendor at 0.089 lb/MMBtu.

Because the boiler cannot meet the ERP emission limitations, the Facility submitted an LPA which proposes fuel usage limitations to bring the twelve (12) consecutive month emissions of NO_x to below a compliant ERP boiler operating 8,760 hours per year. A fuel use restriction of 23.6 million cubic feet (MMcf) of natural gas per twelve (12) consecutive months and 8.12 MMcf per month has been determined as best available control technology (BACT) for this project.

The following additional regulatory requirements are applicable:

- 310 CMR 7.04(4)(a): Inspection, Maintenance and Testing;
- 40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. MassDEP has delegation of this subpart for operating permit sources only;
- Visible emission requirements of 310 CMR 7.06, the dust, odor, construction and demolition requirements of 310 CMR 7.09 and the noise reduction requirements of 310 CMR 7.10.

The Facility has stated that that they are not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Nonattainment New Source Review (310 CMR 7.00, Appendix A), or the Prevention of Significant Deterioration (PSD) review.

Bay State Gas received a 50% Emission Cap approval from the MassDEP dated August 4, 2015 which limits the facility's potential emissions to levels established at 301 CMR 7.02(11)(e).

1. EMISSION UNIT (EU) IDENTIFICATION

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

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
WSPV3	Total Energy Resources, Inc. (TERI) indirect waterbath heater (boiler) for propane vaporization Serial #2078	10.91 MMBtu/hr	N/A

Table 1 Key:

EU# = Emission Unit Number
PCD = Pollution Control Device

MMBtu/hr = Million British thermal units per hour
N/A = not applicable

2. 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 below:

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
WSPV3	1. Natural Gas Usage: <ul style="list-style-type: none"> • 23.6 MMcf/yr • 8.12 MMcf/mo 	NO _x	0.089 lb/MMBtu 1.05 TPY 0.36 TPM
		PM	0.005 lb/MMBtu 0.06 TPY 0.02 TPM
		CO	0.080 lb/MMBtu 0.94 TPY 0.32 TPM
		VOC	0.003 lb/MMBtu 0.04 TPY 0.01 TPM
		HAP (total) ¹	0.02 TPY 0.01 TPM
		Opacity ²	≤10% opacity (excluding water vapor) at any time

Table 2 Key:

- | | |
|--|---|
| EU# = Emission Unit Number
PCD = Pollution Control Device
NO _x = Nitrogen Oxides
CO = Carbon Monoxide
PM = Total Particulate Matter
lb/MMBtu = pounds per million British thermal units
MMcf/yr = Million cubic feet per year | MMBtu/hr = Million British thermal units per hour
N/A = not applicable
VOC = Volatile Organic Compounds
HAP (total) = total Hazardous Air Pollutants
TPM = tons per month
TPY = tons per consecutive 12-month period |
|--|---|

Table 2 Notes:

- 1 – HAP emission factors to be taken from Tables 1.4-2, 1.4-3, and 1.4-4 of AP-42, Chapter 1: External Combustion Sources or other MassDEP approved source.
- 2 - Opacity means that characteristic of matter which renders it capable of interfering with the transmission of rays of light and causes a degree of obscuration of an observer's view.

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 below:

Table 3	
EU#	Monitoring and Testing Requirements
WSPV3	1. In accordance with 310 CMR 7.02(3)(d), the Permittee shall keep a monthly record of: <ol style="list-style-type: none"> a. fuel usage in cubic feet; b. the type and amount of any fuel additives used.
	2. In accordance with 310 CMR 7.04(4)(a), the Permittee shall inspect and maintain the TERI boiler in accordance with the manufacturers recommendations and test for efficient operation at least once in each calendar year. The results of said inspection, maintenance, and testing and the date upon which it was performed shall be recorded and posted conspicuously on or near the boiler.
Facility-wide	3. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12, Source Registration.
	4. 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

Table 3 Key:

EU# = Emission Unit Number
 USEPA = United States Environmental Protection Agency
 MassDEP = Massachusetts Department of Environmental Protection

TERI = Total Energy Resources, Inc.
 CMR = Code of Massachusetts Regulations

Table 4	
EU#	Record Keeping Requirements
WSPV3	<p>1. A recordkeeping system shall be established and implemented onsite and shall provide sufficient detail to document compliance. Recordkeeping shall include the following:</p> <ul style="list-style-type: none"> a. a monthly record of fuel usage in cubic feet; b. a monthly record of the type and amount of any fuel additives used; c. a written record of all tune-ups, including inspections, maintenance, and results of the efficiency tests. The results of said inspection, maintenance, and testing and the date upon which it was performed shall be recorded and posted conspicuously on or near the emission unit; and; d. all purchase orders and invoices related to boiler combustion or emission rate. <p>2. Documentation shall be maintained onsite that the boiler and its appurtenances, as designed and installed, will comply with the emission limitations when operated in accordance with the manufacturer's instructions. This documentation, including the manufacturer's operating instructions, shall be retained for as long as the boiler operates.</p> <p>3. All records shall be maintained up-to-date such that year-to-date information is readily available for Department examination.</p>
Facility-wide	<p>4. 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/dep/air/approvals/aqforms.htm#report .</p> <p>5. The Permittee shall maintain records of monitoring and testing as required by Table 3.</p> <p>6. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.</p> <p>7. 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>8. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(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>9. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.</p> <p>10. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.</p> <p>11. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.</p>

Table 4 Key:

EU# = Emission Unit Number
 USEPA = United States Environmental Protection Agency
 MassDEP = Massachusetts Department of Environmental Protection
 SOMP = Standard Operating and Maintenance Procedure

TERI = Total Energy Resources, Inc.
 CMR = Code of Massachusetts Regulations
 PCD = Pollution Control Device

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 Western Regional Office of MassDEP, BAW Section Chief by telephone (413) 755-2115, email, marc.simpson@state.ma.us or fax (413) 784-1149, 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 the Section 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
 USEPA = United States Environmental Protection Agency
 MassDEP = Massachusetts Department of Environmental Protection

TERI = Total Energy Resources, Inc.
 CMR = Code of Massachusetts Regulations
 BAW = Bureau of Air and Waste

4. SPECIAL TERMS AND CONDITIONS

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

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

Table 6	
EU#	Special Terms and Conditions
WSPV3	1. The TERI boiler shall be fired with natural gas only.
	2. The TERI boiler and appurtenances shall be operated in accordance with the manufacturer’s standard operating and maintenance procedures.
	3. A boiler tune-up shall be performed annually. A boiler tune-up shall include an inspection for proper operation, any other maintenance recommended by the manufacturer, and an efficiency test. An efficiency test shall include at least a smoke spot reading, flue gas temperature measurement and a measure of carbon dioxide, oxygen, and carbon monoxide. A written record of the efficiency test and any maintenance performed shall be kept on site in accordance with the record keeping provisions contained 310 CMR 7.26(36).
	4. Fuel additives shall only be used in accordance with the manufacturer’s instructions.
	5. The Permittee has indicated that the Project is subject to 40 CFR 60 Subpart Dc– Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Since MassDEP has not accepted delegation for Subpart Dc for sources which are not subject to 310 CMR Appendix C, the Permittee is advised to consult with EPA Region 1 at 5 Post Office Square, Suite 100, Boston, MA 02109-3912, telephone: (617)918-1111. Other applicable requirements may include notification, record keeping, and reporting requirements.
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
 USEPA = United States Environmental Protection Agency
 MassDEP = Massachusetts Department of Environmental Protection

TERI = Total Energy Resources, Inc.
 CMR = Code of Massachusetts Regulations
 CFR = Code of Federal Regulations

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.” The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7 below, 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)
WSVP3	27.28	2	8 - 12	600 - 1000

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.

Should you have any questions concerning this Plan Approval, please contact Amy Stratford by telephone at (413) 755-2144, 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.

Marc Simpson
Section Chief
Bureau of Air and Waste

Enclosure

ecc: MassDEP/Boston - Yi Tian
Judy Bourdon, AECOM