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

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March 14, 2012

Mr. Jairaj Gosine
Wheelabrator Saugus, Inc.
100 Salem Turnpike
Saugus, MA 01906

RE: **SAUGUS** - Metropolitan
Boston/Northeast Region
310 CMR 7.08(2) - Municipal Waste Combustors
Application No. MBR-98-ECP-006
Transmittal No. W003302
EMISSION CONTROL PLAN
MODIFIED FINAL APPROVAL

Dear Mr. Gosine:

The Metropolitan Boston/Northeast Regional Office (NERO) of the Department of Environmental Protection, Bureau of Waste Prevention ("MassDEP"), has reviewed your request, dated January 9, 2012, to modify the Municipal Waste Combustor (MWC) Emission Control Plan (ECP) Final Approval issued to you by MassDEP, pursuant to 310 CMR 7.08(2), on September 28, 2007. This request included a proposal to modify certain emission limits contained in your ECP Final Approval for equipment at your facility located at 100 Salem Turnpike in Saugus, Massachusetts.

The purpose of 310 CMR 7.08(2) was to provide emission limitations for the control of certain designated pollutants emitted from MWCs, in accordance with the requirements contained in Sections 111(d) and 129 of the Clean Air Act. 310 CMR 7.08(2) established requirements for the following: Operating Practices [Carbon Monoxide (CO), Flue Gas Temperature, Load Level], Metals [Mercury (Hg), Lead (Pb), Cadmium (Cd)], Particulate Matter (PM), Opacity, Organics (Dioxins/Furans), Acid Gases [Sulfur Dioxide (SO_2) and Hydrogen Chloride (HCl)], Nitrogen Oxides (NO_x), and Fugitive Ash Emissions.

Pursuant to 310 CMR 7.08(2)(j)7., MassDEP has modified your ECP Final Approval in order to include additional NO_x and Hg emission limits and to reduce the PM, Cd, and Pb emission limits contained in the original, September 28, 2007 ECP Final Approval. The NO_x emission limit was proposed in order for the Commonwealth to meet its obligation under Section 169A of the Clean Air Act to address regional haze, as described in MassDEP's Regional Haze State Implementation Plan. Monitoring and record keeping for this new NO_x emission limit shall commence 180 days after issuance of this ECP Final Approval. In addition, the Hg, PM, Cd, and Pb emission limits were proposed to reflect revisions to the federal 40 CFR Part 60, Subpart Cb Emission Guidelines for Existing Large Municipal Waste Combustors promulgated on May 10, 2006 and which went into effect for the subject facility on May 10, 2011 (40 CFR Part 60.39b(h)).

MassDEP has determined that your submittal is administratively and technically complete and that the proposed modifications are in conformance with current air pollution control engineering practices and hereby **modifies your MWC ECP Final Approval** as listed below.

In Table 2 of the ECP Final Approval,

a) Include an Oxides of Nitrogen (NO_x) limit of 185 ppm by volume at 7% O_2 dry basis, 30-day rolling average; and,

b) Reduce the Particulate Matter (PM) limit from 27 milligrams per dry standard cubic meter (mg/dscm) at 7% O_2 to 25 mg/dscm at 7% O_2; and,

c) Reduce the Cadmium (Cd) limit from 0.040 mg/dscm at 7% O_2 to 0.035 mg/dscm at 7% O_2; and,

d) Reduce the Lead (Pb) limit from 0.440 mg/dscm at 7% O_2 to 0.400 mg/dscm at 7% O_2; and,

e) Replace the Mercury (Hg) limit of 0.080 mg/dscm at 7% O_2 (during any single quarterly compliance test) with a Hg limit of 0.050 mg/dscm or 15% of the potential emission concentration (85% reduction by weight) and not to exceed 0.080 mg/dscm at 7% O_2, whichever is less stringent (during any single quarterly compliance test).

In the first sentence of Table 2, Note 4, delete the phrase "Based on the current NO_x limit of 205 ppm by volume at 7% O_2 dry basis,". Furthermore, add Notes 6 and 7 to Table 2.

As such, MassDEP replaces Pages 4 and 5 of your September 28, 2007 ECP Final Approval with the two (2) pages attached hereto. All other requirements as contained in your September 28, 2007 ECP Final Approval shall remain in full force and effect.

MassDEP issued a Proposed Modification to your ECP Final Approval on January 25, 2012. Pursuant to 310 CMR 7.08(2)(j)7., public notice of this proposed modified ECP Final Approval was published in accordance with M.G.L. c. 30A in the Lynn Daily Item on February 3, 2012 and in the Saugus Advertiser on February 9, 2012, followed by a 30-day public comment period. As such, the public comment period ended on March 12, 2012. During the public comment period, no comments were received.

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 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. The facility submitted an ENF on February 2, 1998 solely because the project could have triggered the review threshold for financing by a public agency [310 CMR 11.24(4)(a)1.]. On March 13, 1998, the Executive Office of Environmental Affairs issued a Certificate allowing for the emission control project to proceed without the need to prepare an Environmental Impact Report. The Certificate stated, "the project will have significant air quality benefits; other environmental impacts should prove minor; and the review of the ENF has served adequately to disclose impacts/benefits and mitigation."

Please be advised that this Approval does not negate the responsibility of the facility to comply with this or any other applicable federal, state, or local regulations now or in the future. Nor does this Approval imply compliance with any applicable federal, state or local regulations now or in the future.

Should you have any questions concerning this Approval, please contact Cosmo Buttaro by telephone at (978) 694-3281, or in writing at the following address: Department of Environmental Protection (MassDEP), 205B Lowell Street, Wilmington, Massachusetts 01887.

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.

Cosmo Buttaro
Environmental Engineer

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

cc: Town Hall, 298 Central Street, Saugus, MA 01906
Board of Health, Town Hall, Saugus, MA 01906
Fire Headquarters, 27 Hamilton Street, Saugus, MA 01906
Metropolitan Area Planning Council, 60 Temple Place, Boston, MA 02111
United States Environmental Protection Agency (USEPA) – New England Regional Office, 5 Post Office Square, Suite 100, Mail Code OEP05-2, Boston, Massachusetts 02109-3912, Attn: Manager – Air Permits Program
MassDEP/Boston: Yi Tian (E-Copy)
MassDEP/NERO: Marc Altobelli (E-Copy & Hard Copy), Mary Persky (Hard Copy), Cosmo Buttaro

APPLICABLE REQUIREMENTS

A. EMISSION LIMITS AND RESTRICTIONS

The facility is subject to the emission limits/restrictions as contained in Table 2 below:

Table 2 +

EU#	RESTRICTION/ OPERATING PRACTICES	POLLUTANT	EMISSION LIMIT/STANDARD [5]	APPLICABLE REGULATION AND/OR APPROVAL NUMBER
EU1, EU2	Unit Load: ≤ 110% of maximum demonstrated load (based on steam flow), calculated in 4-hour block arithmetic averages, measured during the most recent dioxin/furan compliance test in which compliance is achieved [3] PM Control Device Inlet Temperature: ≤ 17°C (30°F) above maximum demonstrated PM control device inlet temperature, calculated in 4-hour block arithmetic averages, measured during the most recent dioxin/furan compliance test in which compliance is achieved [3]	Opacity	≤ 10% (6 minute block average)	310 CMR 7.08(2)(f)2.
		HCl	≤ 29 ppm by volume at 7% O_2 dry basis or 95% reduction by weight or volume, whichever is less stringent.	
		Dioxin/Furan	≤ 30 ng/dscm at 7% O_2	
		SO_2	≤ 29 ppm by volume at 7% O_2 dry basis or 75% reduction by weight or volume, whichever is less stringent (24-hour geometric mean)	
		Cd	≤ 0.035 mg/dscm at 7% O_2 [6]	40 CFR 60.33b(a) 310 CMR 7.08(2)(f)2.
		Pb	≤ 0.400 mg/dscm at 7% O_2 [6]	
		PM	≤ 25 mg/dscm at 7% O_2 [1, 6]	
		CO	≤ 100 ppm by volume at 7% O_2 dry basis at combustor outlet (4-hour block average)	310 CMR 7.08(2)(f)1.a.i.
		NO_x	≤ 205 ppm by volume at 7% O_2 dry basis (24-hour daily arithmetic average)	310 CMR 7.08(2)(f)3.
			≤ 185 ppm by volume at 7% O_2 dry basis (30-day rolling average) [7]	40 CFR Part 51.308(e)
		Hg	≤ 0.050 mg/dscm or 15% of the potential emission concentration (85% reduction by weight) and ≤ 0.080 mg/dscm at 7% O_2 , whichever is less stringent (during any quarterly test)	40 CFR 60.33b(a) 310 CMR 7.08(2)(g)2.
			≤ 0.028 mg/dscm at 7% O_2 (based on average of 4 quarterly compliance tests per rolling 12 months)	310 CMR 7.08(2)(f)2.
		NH_3	≤ 10 ppm by volume at 7% O_2 dry basis [4]	310 CMR 7.08(2)(j)5. (State Only Requirement)
EU3	NA	Fugitive Ash	Visible emissions ≤ 9 minutes per 3 hour period [2]	310 CMR 7.08(2)(f)5.

\+ **Table 2 Notes:**

1 In accordance with 310 CMR 7.08(1)(g), no person shall cause, suffer, allow, or permit emissions from any incinerator of any particles that have a dimension greater than 100 microns. (State Only Requirement)

2 No person subject to 310 CMR 7.08(2) shall cause, suffer, allow or permit the discharge into the atmosphere of any visible emissions of combustion ash from an ash conveying system (including transfer points) in excess of 5 percent of the observation period (nine minutes per three-hour period). This emission limit does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however the emission limit does apply to visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems. This subsection does not apply during maintenance and repair of ash conveying systems. Maintenance and repair of the ash conveying systems must be done in accordance with best management practices.

3 No person subject to 310 CMR 7.08(2) shall:

1. cause, suffer, allow or permit a municipal waste combustor unit to operate at a load level (based on steam flow) greater than 110 percent of the maximum demonstrated municipal waste combustor unit load calculated in 4-hour block arithmetic averages, measured during the most recent dioxin/furan compliance test in which compliance is achieved; and

2. cause, suffer, allow or permit a municipal waste combustor unit to operate at a temperature, measured at the PM control device inlet, exceeding 17°C (30°F) above the maximum demonstrated PM control device temperature, calculated in 4-hour block arithmetic averages, measured during the most recent dioxin/furan compliance test in which compliance is achieved.

   During any nine-month dioxin/furan compliance test and the 2 weeks preceding each nine-month dioxin/furan compliance test, municipal waste combustor unit load limit and PM control device temperature limitations are not applicable.

   Municipal waste combustor unit load limit and PM control device temperature limitations may be waived, if prior approval is granted by MassDEP, for the purposes of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance provided that there is an improvement in controlling air pollution, or advancing the state-of-the-art for controlling facility emissions.

4 NH_3 emissions from each MWC unit shall be limited to 10 ppm by volume at 7% O_2 dry basis. Compliance with the NH_3 emission limit/standard shall be based on a minimum of 3 compliance test runs on each MWC unit per compliance test, measured at the Spray Dryer Absorber inlet or Fabric Filter outlet, using EPA Test Method 26A or other test method approved by MassDEP.

5 Emission limits/standards in Table 2 and under 310 CMR 7.08 apply at all times except during periods of start-up, shutdown or malfunction as defined in 40 CFR Part 60, Subpart Eb, 60.58b, as amended.

6 The 310 CMR 7.08(2)(f)2. limits of 0.040, 0.440, and 27 mg/dscm at 7% O_2 are less restrictive than the listed Table 2 emission limits of 0.035, 0.400, and 25 mg/dscm at 7% O_2 for Cd, Pb, and PM, respectively (40 CFR 60.33b(a)).

7 Monitoring and record keeping for the NO_x limit of 185 ppm by volume at 7% O_2 dry basis (30-day rolling average) shall commence 180 days after issuance of this ECP Final Approval. NO_x Continuous Emissions Monitoring Systems installed and operated in accordance with 310 CMR 7.08(2)(g) shall be used to demonstrate compliance with said limit. Record keeping, including the 30-day rolling averages, shall be in accordance with 310 CMR 7.08(2)(h), as applicable. Reporting, including deviations from said limit, shall be in accordance with 310 CMR 7.08(2)(i).

\+ **Table 2 Key:**

EU# = Emission Unit Number
mg/dscm = milligram per dry standard cubic meter
ng/dscm = nanogram per dry standard cubic meter
ppm = parts per million
Cd = Cadmium
Pb = Lead
HCl = Hydrogen Chloride
Dioxin/Furan = tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans
PM = Particulate Matter
SO_2 = Sulfur Dioxide
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
Hg = Mercury
NH_3 = Ammonia
O_2 = Oxygen
% = percent