



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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Secretary

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Commissioner

MAR 24 2011

Ms. Jolanta Wojas
General Electric Aviation
1000 Western Avenue
Lynn, Massachusetts 01910

RE: LYNN – Metropolitan
Boston/ Northeast Region
310 CMR 7.19
Application No. MBR-94-COM-008
Transmittal No. X235617
**MODIFIED EMISSION CONTROL PLAN
FINAL APPROVAL**

Dear Ms. Wojas:

The Metropolitan Boston/Northeast Region of the Department of Environmental Protection, Bureau of Waste Prevention, ("MassDEP"), is hereby responding to your written request, received on December 13, 2010, to modify your Oxides of Nitrogen (NO_x) Reasonably Available Control Technology (RACT) EMISSION CONTROL PLAN (ECP) FINAL APPROVAL issued to you by MassDEP on March 30, 2000. This NO_x RACT application was submitted by General Electric Aviation (GEA) and signed by Ms. Maria Deacon, as the legally responsible company official.

This review of the submitted information by MassDEP engineers indicates that GEA has requested that MassDEP cap the existing Babcock & Wilcox Model No. PPL-2897 Unit's (Boiler No. 3) NO_x and Sulfur Dioxide (SO₂) emissions each to less than 250 tons per year. Boiler No. 3 will then be exempt from Best Available Control Retrofit Technology (BART) requirements. See Table 2 Emission Caps below.

PROCESS DESCRIPTION

The GEA facility located at 1000 Western Avenue in Lynn, Massachusetts consists of four (4) boilers, a stationary combustion turbine with its associated heat recovery steam generator (HRSG). One of the four boilers (Boiler No. 5) is not subject to NO_x RACT Regulation 310 CMR 7.19. Boiler No. 5 is addressed in 310 CMR 7.02 FINAL APPROVAL letter (MBR-97-COM-016). The three NO_x RACT subject boilers (Boiler Nos. 1, 2 and 3) are each capable of utilizing either natural gas as the primary fuel or No. 6 residual fuel oil as the secondary fuel. The No. 6 residual fuel oil shall have a maximum sulfur content of 1.0% by weight (1% S). The combustion turbine/HRSG (Unit No. 8) utilizes No. 2 distillate fuel oil as the primary fuel of use and natural gas as the secondary fuel use. The No. 2 distillate fuel oil shall have a maximum sulfur content of 0.3 percent by weight (0.3%). The NO_x RACT subject combustion units are described in Table 1 below.

Table 1 – Description of Subject NO_x RACT Combustion Sources

Unit No.	Description of Unit	Manufacturer & Model No.	Maximum Energy Input Rating (MMBtu/hr)*
1	Water tube boiler	Foster Wheeler 8B-1652	198.8
2	Water tube boiler	Foster Wheeler B-4482	195.0
3	Water tube boiler	Babcock & Wilcox PPL-2897	382.8
4	Combustion gas turbine/HRSG	General Electric G5301	270.0

* MMBtu/hr = million British Thermal Units per hour

Table 2 - UNIT NO. 3 NO_x AND SO₂ EMISSION CAPS

AIR POLLUTANT	Monthly Emissions (in tons)	12-Month Rolling Emissions (in tons)
NO _x	50.0	249.0
SO ₂	60.0	249.0

RACT STRATEGY FOR THE FOUR UNITS

Unit No. 1, the Foster Wheeler Model 8B-1652 boiler, has been adjusted to comply with the RACT emission limit of 0.3 pounds of NO_x per MMBtu (lbs NO_x/MMBtu) while firing either residual fuel oil (1.0% S) or residual fuel oil (1.0% S) and natural gas. The adjustments were the replacement of the burner tips and a redesigned swirler.

Unit No. 2, the Foster Wheeler Model B-4482 boiler, has been adjusted to comply with the RACT emission limit of 0.3 lbs NO_x/MMBtu while firing either residual fuel oil (1.0% S) or residual fuel oil (1.0% S) and natural gas. The adjustments were the replacement of the burner tips and a redesigned swirler.

Unit No. 3, the Babcock & Wilcox Model PPL-2897 boiler, has been adjusted to comply with the RACT emission limit of 0.28 pounds of NO_x per MMBtu (lbs NO_x/MMBtu) while firing either residual fuel oil (1.0% S) or residual fuel oil (1.0% S) and natural gas. The adjustments included the addition of the flue gas recirculation, stage air combustion and modifications to the flames stabilizer/gas spuds and oil atomizers.

Unit No. 8, the General Electric Model G5301 combustion gas turbine with associated HRSG, has incorporated steam injection controls. The steam injection control is based on fuel flow to the turbine. Steam injection will reduce the NO_x emission rate to 42 parts per million volume dry (ppmvd) on natural gas and 65 ppmvd on distillate fuel oil (0.3%), both corrected to 15% O₂ which are the RACT limits (310 CMR 7.19 (7)) for combined cycle stationary combustion turbines.

MassDEP has determined that the subject ECP modified application is administratively complete and that it is in conformance with current air pollution control engineering practice. Therefore, MassDEP hereby grants this **MODIFIED FINAL APPROVAL** for the subject modified ECP application, as submitted, with the following provisions:

I. NO_x EMISSION LIMITATIONS

1. That Unit Nos. 1 and 2 shall each comply with the RACT emission limit of 0.3 lbs NO_x/MMBtu while firing either residual fuel oil (1.0% S) or residual fuel oil (1.0% S) and natural gas.
2. That Unit No. 3 shall comply with the RACT emission limit of 0.28 lbs NO_x/MMBtu while firing either residual fuel oil (1.0% S) or residual fuel oil (1.0% S) and natural gas.
3. That Unit No. 8, shall not exceed the NO_x emission rate to 42 ppmvd while firing natural gas and 65 ppmvd while firing distillate fuel oil (0.3%), both corrective to 15% O₂ which are the RACT limits (310 CMR 7.19 (7)) for combined cycle stationary combustion turbines.
4. These emission limits shall not apply during periods of startup, shutdown, and other exclusion periods as specified in the MassDEP approved Standard Operating Plan.

II. CARBON MONOXIDE (CO) EMISSION LIMITATIONS

1. That Unit Nos. 1, 2 and 3 shall not exceed a CO exhaust concentration of 200 ppmvd, corrected to 3% O₂, while firing either usage will fuel oil (1.0% S) or residual fuel oil (1.0% S.) and natural gas.
2. That Unit No. 8, shall not exceed the CO emission rate to 50 ppmvd, corrective to 15% O₂ while firing distillate fuel oil (0.3%) or distillate fuel oil (0.3%) and natural gas which is the RACT limit (310 CMR 7.19 (7)) for combined cycle stationary combustion turbines.
3. These emission limits shall not apply during periods of startup, shutdown, and other exclusion periods as specified in the MassDEP approved Standard Operating Plan.

III. UNIT NO. 3 NO_x AND SO₂ EMISSION CAPS

1. Unit No. 3 shall comply with the Emission Caps contained in Table 2 above.

IV. TESTING AND MONITORING REQUIREMENTS

1. That Unit Nos. 1, 2 and 3 shall demonstrate compliance with the above CO and NO_x emission standards by the use of a continuous emissions monitoring system (CEMS) for each unit. All CEMS shall comply with regulation 310 CMR 7.19(13)(b). For Unit No. 8, CEMS monitoring shall be supplemented by parametric monitoring as specified in the MassDEP approved Standard Operating

VI GENERAL REQUIREMENTS/PROVISIONS

1. This Modified Final Approval dated March 24, 2011, shall supersede the previous Modified Emission Control Plan Approval dated March 18, 2011, the Emission Control Plan Final Approval, dated March 30, 2000 and Modified Emission Control Plan Final Approval, dated November 28, 2001.
2. GEA shall maintain continuous compliance at all times with the terms of this ECP.
3. This approval may be suspended, modified, or revoked by MassDEP if at any time the facility is violating any applicable regulation(s) or condition(s) of this approval letter.
4. The subject ECP consist of the application materials and this approval letter if conflicting information is found between these two documents then the requirements of the approval letter shall take precedence over the documentation in the application materials.
5. That should any nuisance condition(s) occur as a result of the operation of these units, then GEA shall immediately take appropriate steps to abate said nuisance condition(s).
6. That GEA shall maintain on-site, at all times, a copy of the Standard Operating and Maintenance Procedure (SOMP) for the subject equipment.
7. MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy and 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 "which allow the Secretary to require the filing of an ENF and/or Environmental Impact Report at a later time.
8. That this approval does not negate the responsibility of GEA 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 other applicable federal, state, or local regulations now or in the future.

Failure to comply with any of the above stated provisions will constitute a violation of the "Regulations", and can result in the revocation of the approval granted herein.

VII APPEAL PROCESS

This Modified Emission Control Plan 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 of issuance of

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 the 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, Massachusetts 02211

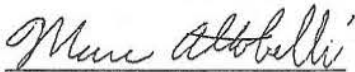
The request will be dismissed if the filing fee is not paid unless the appellant is exempt or granted a waiver as described below.

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.

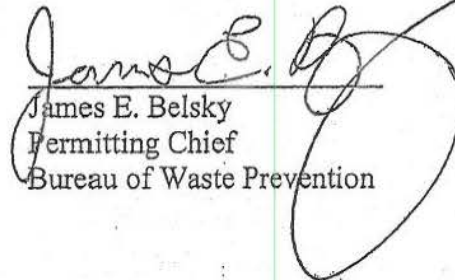
MassDEP may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this matter, please do not hesitate to contact Mr. Marc Altobelli at (978) 661-7600.

Sincerely,



Marc Altobelli
Environmental Engineer
Bureau of Waste Prevention



James E. Belsky
Permitting Chief
Bureau of Waste Prevention

cc: Board of Health, 1 City Hall, Lynn, MA 01901
Fire Headquarters, 725 Western Avenue, Lynn, MA 01901
DEP, Boston, Attn: Yi Tian, AQ (e-copy)
DEP, NERO, Attn: M. Altobelli
U.S Environmental Protection Agency, Region 1, 5 Post Office Square, Suite 100, Mail Code OES04-2,
Boston, Massachusetts 02109-3912 ATTN: Section Chief, Stationary Source and Compliance Section