



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

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July 24, 2012

Lieutenant Colonel Z. Walter Jackim
Commander, 6th Space Warning Squadron
Cape Cod Air Force Station (CCAFS)
Department of the Air Force
P.O. Box 428 / 1 Flatrock Hill Road
Sagamore, MA 02561-0428

RE: Bourne
Transmittal No.: X251074
Application No.: SE-12-016
Fee Class: SM80-R
FMF No.: 38377
310 CMR 7.02(10)
**MODIFIED RESTRICTED
EMISSION STATUS APPROVAL**

Dear Lt Col Jackim:

The Massachusetts Department of Environmental Protection (“MassDEP”) has determined that the above referenced Modified Restricted Emission Status (“RES”) Application is administratively and technically complete. MassDEP hereby **approves** your Modified RES Application legally limiting the amount of federal potential emissions from your facility through a restriction on the fuels used and/or another restriction as noted herein. **This Modified RES Approval supersedes RES Approval No. 4R02024, issued to you by MassDEP on January 23, 2003, in its entirety.**

This **Modified RES Approval** will be issued in accordance with Regulation 310 CMR 7.02(10) of the Air Pollution Control Regulations (“Regulations”), Regulation 310 CMR 7.00 as adopted pursuant to M.G.L. c.111, Sections 142A-142N.

Included as part of this Modified RES Approval are the following:

- Special Conditions for RES
- General Conditions for RES
- Appeal Rights

Notice of the proposal to approve the Modified RES was published in the Cape Enterprise Newspaper editions on June 22, 2012 in accordance with the requirements of 310 CMR 7.02(10), followed by a mandatory minimum thirty (30) day public comment period that ended on July 22, 2012. During the public comment period, no comments were received.

Please review the entire Modified RES Approval carefully as it stipulates the particular conditions the facility owner/operator must comply with for the facility to be operated in compliance with the Regulations.

MassDEP has determined that the filing of an Environmental Notification Form (“ENF”) with the Secretary of Energy and Environmental Affairs, for air quality purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act and Regulation 310 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 (“EIR”) at a later time.

Should you have any questions concerning this Modified RES Approval, please contact Dan Kamieniecki at (508) 946-2717.

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.*

Thomas Cushing
Permit Section
Bureau of Waste Prevention

ecc: Fire Department, Bourne
Board of Health, Bourne
Town Administrator, Bourne – T. Guerino
Cape Cod Commission – G. Cannon
MassDEP/Boston – Y. Tian
MassDEP/SERO – M. Pinaud, L. Black
EPA – Region 1, Clean Air Program – D. Dahl
ESS Group. Inc. – M. Feinblatt
BAE Systems, CCAFS – S. Syler

I. SPECIAL CONDITIONS FOR RESTRICTED EMISSION STATUS APPROVAL

A. EQUIPMENT DESCRIPTION

1. Table 1 below shows the existing Cape Cod Air Force Station (CCAFS) facility-wide federal potential emission limits for nitrogen oxides, as restricted via existing Final Restricted Emission Status Approval No. 4R02024, and subsequently installed equipment. Current facility equipment includes Emission Units (EU) 1-7, 8a-10a, 17-20, 21a, 22, and 23.

Table 1	
Pollutant	Current Facility-Wide Potential Emission limit, tons per consecutive 12-month period
Nitrogen Oxides (NO _x)	49.82

2. CCAFS has submitted information via a BWP AQ 09 RES Application as a means to restrict potential emissions below operating permit program thresholds. CCAFS proposes to operate the following equipment in Table 2 at your 1 Flatrock Hill Road, Sagamore, MA facility:

Table 2						
EU# ¹	Description of EU	EU Manufacturer and Model Number	Allowable Fuel	NO _x ² Emission Factor ³ , lbs/hr ⁴	Maximum Heat Input Rating ⁵ , Btu/hr	Maximum Fuel Firing Rate ⁶ gal/hr ⁷
EUs 1-5	Diesel Generators	General Electric Model 7FDS16A5 (EU 1-3) 7FDS16A6 (EU 4-5)	ULSD ⁹	45.16	14,111,000	103.00
EU 6a ⁸	Boilers	Burnham Model 4FHW-277A-50-O-PF Burner: Power Flame BCC2-OB		0.33	2,274,200	16.60
EU 7a ⁸	Boilers	Burnham Model 4FHW-277A-50-O-PF Burner: Power Flame BCC2-OB		0.33	2,274,200	16.60
EU 8a	Boiler	Hydrotherm Model PB-150W/180W Burner: Beckett PB-4H		0.025	171,250	1.25
EU 9a	Boiler	Hallmark Model HBD85 Burner: Beckett LB-85		0.015	102,750	0.75
EU 10a	Boiler	Weil-McLain Model PW60-3 Burner: Beckett WGO-3		0.019	130,150	0.95
EU 17	Diesel Engine	Caterpillar Model 3306 D1		3.30	748,020	5.46

EU 18	Diesel Engine	Detroit Diesel Model VMFPT6HT		4.89	1,109,700	8.10
EU 19	Diesel Engine	Caterpillar Model 3306 PC		6.83	1,548,100	11.30
EU 20	Diesel Engine	John Deere Model 4329 DF00		4.40	997,360	7.28
EU 21a	Diesel Engine	Lombardini Model UR230DPL		0.91	206,870	1.51
EU 22	Diesel Engine	Kohler/John Deere Model 4045HF285		1.04 ¹⁰	1,117,920	8.16
EU 23	Furnace	Westinghouse Model TCFA-HA4821AC Burner: Westinghouse TCFA	Propane	0.016	108,225	1.17

Table 2 Notes:

1. EU# = Emission Unit Number
2. NO_x = Nitrogen Oxides
3. Based on AP-42, these NO_x emission factors reflect each EUs maximum fuel firing rate.
4. lbs/hr = pounds per hour
5. Btu/hr = British thermal units per hour
6. Maximum fuel firing rate is based upon fuel high heating values of 137,000 Btu/gallon of diesel fuel oil.
7. gal/hr = gallons per hour
8. Future EU 6a and 7a are replacing existing EU 6 and EU 7. EU 6a and EU 7a shall not commence operation until EU 6 and EU 7 are decommissioned.
9. ULSD = Ultra Low Sulfur Distillate Fuel Oil with less than or equal to 0.0015 percent sulfur content by weight
10. EU 22 is certified to meet the EPA Tier 3 Nonroad Emission Standards. The Tier 3 NMHC+NO_x emission standard has been used to determine the potential NO_x emissions, in lieu of AP-42.

B. EMISSION LIMITS (SHORT TERM & LONG TERM)

Nitrogen Oxides (NO_x) emissions from the subject Cape Cod Air Force Station “facility” in Sagamore, MA shall be restricted to the emission limits contained in Table 3 below. The “facility” shall include the Emission Units listed above in Table 2 as well as any future installations of equipment at the facility which are either exempt from Plan Approval pursuant to Regulation 310 CMR 7.02, or which will be installed in compliance with the Industry Performance Standards for Boilers, Regulation 310 CMR 7.26 (30) through 7.26 (37) and/or the Industry Performance Standards for Engines and Combustion Turbines, Regulation 310 CMR 7.26 (40) through (44).

Table 3		
Pollutant	Future Facility-Wide, Total Restricted Emission Limit, tons per month	Future Facility-Wide, Total Restricted Emission Limit, tons per consecutive 12-month period
Nitrogen Oxides (NO _x)	18.04	43.81

C. PRODUCTION LIMITS

Not Applicable.

D. OPERATING LIMITS

1. Cape Cod Air Force Station shall restrict the operational hours of its Emission Units (EUs) at the subject facility in Sagamore, MA as described in Table 4 below.

Table 4			
EU#	Fuel	Monthly Restrictions, Hours of Operation	Consecutive 12-Month Period Restrictions, Hours of Operation
EUs 1-5 combined	ULSD ¹	750	1,700
EU 6a		650	7,446
EU 7a		650	7,446
EU 8a		650	7,446
EU 9a		650	7,446
EU 10a		650	7,446
EU 17		100	300
EU 18		100	300
EU 19		100	300
EU 20		25	100
EU 21a		25	100
EU 22		100	300
EU 23		Propane	650

Table 3 Note:

1. ULSD = Ultra Low Sulfur Distillate Fuel Oil with less than or equal to 0.0015 percent sulfur content by weight.

2. The sulfur content of the ULSD Fuel Oil used at this facility shall not exceed 0.0015 percent by weight.

E. MONITORING REQUIREMENTS

See GENERAL CONDITIONS I. and J. below.

Cape Cod Air Force Station shall monitor facility operations to ensure compliance with the NO_x emission limits and operational limits specified herein including but not limited to: a) maintaining efficient operation of the subject emission units; b) the installation, operation and maintenance of non-resettable totalizing run time meters, that measure and totalize for the facility personnel to read, on all EUs, to verify compliance with the Hours of Operation restrictions contained herein. In addition, Cape Cod Air Force Station shall perform stack testing on the subject equipment when and if in the opinion of MassDEP such is deemed necessary.

F. RECORD KEEPING REQUIREMENTS

See GENERAL CONDITION K. below.

Cape Cod Air Force Station shall maintain operational run time logs for the subject emission units on monthly and consecutive 12-month periods. Said operational run time logs shall contain: the fuel usage for each emission unit, type of fuel burned each month, the sulfur content of fuel oil used, the resulting monthly emissions from said operation run time logs, and resulting emissions for the previous twelve months (the total from the current month's operational run times plus the sum of the operational run times for the eleven months preceding the current month). The fuel burned shall be calculated by the multiplying the operational run time(s) and maximum fuel firing rate (as contained in Table 2 of this Approval). A copy of these operational run time logs must be kept on site. An interactive Microsoft Excel on-site record keeping form can be downloaded at <http://www.mass.gov/dep/air/approvals/aqforms.htm#report>.

In addition Cape Cod Air Force Station shall maintain accurate and timely records documenting all combustion equipment retirements, replacements and installations on-site and shall make said records available to MassDEP personnel upon request.

G. REPORTING REQUIREMENTS

See GENERAL CONDITION L. below.

Cape Cod Air Force Station shall submit a Restricted Emission Status Exceedance Report (RESER) to MassDEP should it exceed any limitation/restriction established within this RES Approval. Said RESER report shall be submitted to this Office within seven (7) days of

documentation of the exceedance of any limitation/restriction by Cape Cod Air Force Station personnel. The RESER shall include identification, duration, and reason for the exceedance, and remedial action plan to prevent future exceedances.

Cape Cod Air Force Station shall be required to submit, on or before March 15th of each year, an Annual RES Compliance Report (ARESCR) to the Southeast Regional Office of MassDEP that documents the compliance status of the facility, for the previous Calendar Year, with respect to the limitations/restrictions established within this RES Approval. Cape Cod Air Force Station shall utilize MassDEP's Annual Emissions Reporting Form, available in interactive Microsoft Excel format at:

<http://www.mass.gov/dep/air/approvals/aqforms.htm#report>.

H. OTHER CONDITIONS

1. This RES supersedes RES No. 4R02024, dated January 23, 2003. RES No. 4R02024 shall be deemed null and void. The underlying application for RES No. 4R02024 shall continue to remain valid.

2. EU 6a and EU 7a shall not commence operation until EU 6 and EU 7 are decommissioned. The Department must be notified in writing within 30 days of commencement of operation of EU 6a and EU 7a, and include the operational status of EU 6 and EU7.

II. GENERAL CONDITIONS FOR RESTRICTED EMISSION STATUS APPROVAL

A. OPERATION - No person shall operate this facility except in conformance with the requirements established in this Restricted Emission Status Approval.

B. SUSPENSION - This Approval may be suspended, modified, or revoked by MassDEP if, at any time, MassDEP determines that the facility is violating any condition or part of the Approval.

C. OTHER REGULATIONS - This Approval does not negate the responsibility of the owner/operator 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 regulation now or in the future.

D. EXISTING APPROVALS - All plan Approvals issued under Regulation 310 CMR 7.02 prior to the effective date of this RES Approval shall continue to meet the emission rates and approved conditions specified in the applicable plan Approval(s) unless specifically altered by this RES Approval.

E. VISIBLE EMISSIONS - The facility shall be operated in a manner to prevent the occurrence of visible emissions which cause or contribute to a condition of air pollution as defined in Regulations 310 CMR 7.01 and 7.06.

F. DUST AND ODOR - The facility shall be operated in a manner to prevent the occurrence of dust or odor conditions which cause or contribute to a condition of air pollution as defined in Regulations 310 CMR 7.01 and 7.09.

G. NOISE - Noise from the facility during routine operation, including startups and shutdowns, shall not exceed MassDEP noise guidelines and shall not cause a condition of air pollution as defined in Regulations 310 CMR 7.01 and 7.10.

H. ASBESTOS - Should asbestos remediation/removal be required as a result of this RES Approval, such asbestos remediation/removal shall be done in accordance with Regulation 310 CMR 7.15.

I. MONITORING - Equipment or emission monitoring systems installed for the purpose of documenting compliance with this Approval shall be installed, calibrated, maintained and operated in sufficient manner to ensure continuous and accurate operation at all times.

J. TESTING - Any emission testing to be compared to limitations in this Approval must be conducted in accordance with the Environmental Protection Agency test methods as specified in the Code of Federal Regulations, Title 40, Part 60, Appendix A - Standards of Performance for New Stationary Sources or by another method correlated to the above method to the satisfaction of MassDEP and in accordance with the requirements noted in Regulation 310 CMR 7.13.

In accordance with Regulation 310 CMR 7.04(4)(a), each fuel utilization facility having an energy input capacity equal to or greater than 3,000,000 Btu per hour shall be inspected and maintained in accordance with the manufacturer's recommendations and tested 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 subject equipment.

K. RECORD KEEPING - A record keeping system shall be established and continued on site. All records shall be maintained up-to-date such that year-to-date information is readily available for MassDEP examination. Record keeping shall, at a minimum, include:

a) Compliance records sufficient to demonstrate that emissions have not exceeded what is allowed by this RES Approval. Such records may include daily production records, raw material usage rates, fuel purchase receipts, emissions test results, monitoring equipment data and reports.

b) **Maintenance:** A record of routine maintenance activities performed on emission unit control equipment and monitoring equipment including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.

c) **Malfunctions:** A record of all malfunctions of emission unit control and monitoring equipment including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the emission unit returned to compliance.

d) All records shall be kept on site for five (5) years and shall be made available to MassDEP upon request.

L. **REPORTING** - In accordance with Regulation 310 CMR 7.12, the facility shall file Source Registration on-line detailing information regarding the facility's emissions. The required information may include:

a) The nature and amounts of emissions from the facility.

b) Information which may be needed to determine the nature and amounts of emissions from the facility.

c) Any other information pertaining to the facility which MassDEP requires.

d) In accordance with Regulation 310 CMR 7.12(2), information required by Regulation 310 CMR 7.12(1)(a) shall be submitted annually.

e) The Regional Bureau of Waste Prevention, Compliance and Enforcement Office must be notified by telephone or fax as soon as possible after the occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment which result in an excess emission to the air and/or a condition of air pollution.

M. **MODIFICATIONS** - Any proposed increase in emissions above the limits contained in this RES Approval must first be approved in writing by MassDEP pursuant to Regulation 310 CMR 7.02. In addition, any increase may subject the facility to additional regulatory requirements.

N. **REMOVAL OF AIR POLLUTION CONTROL EQUIPMENT** - No person shall cause, suffer, allow, or permit the removal, alteration or shall otherwise render inoperative any air pollution control equipment or equipment used to monitor emissions which has been installed as a requirement of Regulation 310 CMR 7.00, other than for reasonable maintenance periods or unexpected and unavoidable failure of the equipment, provided that MassDEP has been notified of such failure, or in accordance with specific written Approval of MassDEP.

III. APPEAL OF APPROVAL

This 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 you received this 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 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.