Casco Bay Energy Company, LLC
Penobscot County
Veazie, Maine
A-728-77-1-M

Departmental
Findings of Fact and Order
New Source Review
NSR #1

FINDINGS OF FACT

After review of the air emission license application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), Section 344 and Section 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Casco Bay Energy Company, LLC
LICENSE TYPE	06-096 CMR 115, Minor Revision
NAICS CODES	221112, Fossil Fuel Electric Power Generation
NATURE OF BUSINESS	Electric Services
FACILITY LOCATION	125 Shore Road, Veazie, Maine

B. NSR License Description

Casco Bay Energy Company, LLC (Casco Bay Energy) has requested a minor revision New Source Review (NSR) license to authorize the like-kind replacement of control equipment, the drift eliminators, on the eight-cell cooling tower. The current schedule is for this to be done over the next two years (two at a time, during each of the next four scheduled maintenance outages), although the schedule may be adjusted.

C. Emission Equipment

The following equipment is addressed in this New Source Review (NSR) license:

Process Equipment

Equipment	Production Rate	Pollution Control Equipment
Cooling Tower	110,000 gal/min	Drift Eliminators

D. Application Classification

The application submitted by Casco Bay Energy does not violate any applicable federal or state requirements, does not reduce monitoring, reporting, testing, or recordkeeping requirements, and does not seek to modify a Best Available Control Technology (BACT) analysis.

The proposed revision will not change the facility's emission limits. Therefore, this NSR license is determined to be a minor revision under *Minor and Major Source Air Emission License Regulations,* 06-096 Code of Maine Rules (CMR) 115 (as amended). These procedures can be utilized to process this application since the proposed revision is not prohibited by the Part 70 license.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Cooling Tower Drift Eliminator Replacement Project

1. Project Description

Casco Bay Energy operates an eight-cell wet mechanical draft Cooling Tower. The Cooling Tower is designed to dissipate heat loads to the atmosphere by efficiently evaporating water. To evaporate, water absorbs heat, causing the remaining water to become cooler. To improve the evaporation rate, cooling towers induce a flow of fresh air across the wetted surface area. Because wet cooling towers provide direct contact between the cooling water and the air passing through the tower, some of the liquid water may be entrained in the air stream and be carried out of the tower as "drift" droplets. The fine droplets subsequently evaporate in the ambient air, liberating the total dissolved solids formerly in solution as emissions of particulate matter (PM and PM_{10}).

Drift Eliminators were incorporated into the Cooling Tower design to minimize the droplets, and potential subsequent PM and PM_{10} formation, from the air stream before exiting the tower. The Drift Eliminators consist of layers

of plastic chevrons located within the tower to coalesce and knock fine water droplets out of entrainment before they can be emitted into the atmosphere.

This level of control in the Cooling Tower results in total annual emissions of PM and PM_{10} to less than 4.9 tons/year each, based on the worst case scenario values from the maximum recirculating rate of the water in the tower, a conservative concentration of total dissolved solids in the water, and a design drift rate of 0.001% after the Drift Eliminators. The replacement of the Drift Eliminators will not change the design drift rate or the calculated emission rates and will not include any process or operational change at the facility.

2. Regulatory Requirements

In accordance with 06-096 CMR 140, *Part 70 Air Emission License Regulation*, Section 2.W, if a licensee is proposing to replace an existing air pollution control system, licensed authorization must be obtained pursuant to requirements of 06-096 CMR 115, *Major and Minor Source Air Emission License Regulation*. Section 2.R. of 06-096 CMR 115 requires replacement air pollution control equipment to satisfy BPT criteria. The replacement may be proposed as a Minor Revision and processed consistent with federal regulations.

The use of Drift Eliminators with a design drift rate of 0.001% with the above worst case emission values was identified as the Best Available Control Technology (BACT) for this equipment in air emission license A-728-71-A-N (07/13/98). Use of such controls meets both BACT and BPT criteria for emissions from the Cooling Tower.

3. Determination

The Department concurs with Casco Bay Energy's proposal that the like-kind replacement of drift eliminators on the facility's Cooling Tower continues to represent BACT for emissions from this unit. Replacement of the Drift Eliminators as proposed is part of the proper maintenance as required by Specific Condition (19) of the facility's Part 70 license A-728-70-D-R (April 28, 2015).

C. Part 70 Air Emission License

The requirements in this 06-096 CMR 115 New Source Review license shall apply to the facility upon issuance. Because the replacement of the drift eliminators is not a modification, and this NSR license will result in no changes to the terms or conditions of the facility's Part 70 license and no additional license requirements, the Department considers this to be an approved off-license change per 06-096 CMR 140 Section 2(J)(2), and Casco Bay Energy is not required to apply for a Part 70 license amendment.

D. Annual Emissions

This minor modification will not result in any changes to the annual emissions totals currently in Casco Bay Energy's air emission license, including any amendments. License allowed annual emissions remain unchanged.

III. AMBIENT AIR QUALITY ANALYSIS

Casco Bay Energy previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (see license A-728-71-A-N, issued July 13, 1998). An additional ambient air quality analysis is not required for this NSR license.

ORDER

The Department hereby grants New Source Review Minor Revision A-728-77-1-M pursuant to the preconstruction licensing requirements of 06-096 CMR 115. There are no amended or additional conditions associated with this NSR license.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

DONE AND DATED IN AUGUSTA, MAINE THIS 20 DAY OF April, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 18, 2016
Date of application acceptance: March 24, 2016

Date filed with the Board of Environmental Protection:

This Order prepared by Jane E. Gilbert, Bureau of Air Quality.

Filed
APR 21 2016
State of Maine
Board of Environmental Protection