



DEPARTMENT ORDER

**Bucksport Generation LLC
 Hancock County
 Bucksport, Maine
 A-22-77-24-M**

**Departmental
 Findings of Fact and Order
 New Source Review
 Minor Revision**

FINDINGS OF FACT

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

I. REGISTRATION

A. Introduction

FACILITY	Bucksport Generation LLC (Bucksport Generation)
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Revision
NAICS CODES	221112
NATURE OF BUSINESS	Fossil Fuel Electric Power Generation
FACILITY LOCATION	2 River Road, Bucksport, Maine

B. NSR License Description

Bucksport Generation has requested a New Source Review (NSR) license to clarify the parameters that define when GEN4 has achieved “steady state operation” in regard to ending the applicability of alternative emission limits during periods of turbine startup, shutdown, and fuel transfer.

C. Emission Equipment

The following equipment is addressed in this NSR license:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur
GEN4	1,963	1,963,000 scf/hr	natural gas, negligible
	2,082	15,200 gal/hr*	distillate fuel, 0.0015%

*Note: The maximum firing rate for distillate fuel has been updated based on an updated heat input of 0.137 MMBtu/gal for distillate fuel. This does not represent any change to the unit itself.

D. Revision Description

GEN4 has established alternate emission limits for NO_x and CO during periods of startup, shutdown, and fuel transfer. These periods end or begin (as applicable) when GEN4 achieves steady state operation, which is when the unit reliably maintains its normal operating limits. However, when this definition was established, Bucksport Generation's license failed to account for any averaging time or minimum duration. When GEN4 approaches steady state operations, emissions may fluctuate for a short period of time both above and below the normal operating limits. Additionally, the current definition of startup refers to reaching "Mode 6" which is a condition that does not exist when firing distillate fuel.

Bucksport Generation has requested clarification of the definitions of turbine startup, shutdown, and fuel transfer, which use the term "steady state" operation, such that the alternative emission limits continue to apply for a short period of time to allow operations to settle out. Therefore, the definitions of turbine startup, shutdown, and fuel transfer are being clarified to read as follows:

Turbine startup shall be defined as a period of time starting with initial combustion in GEN4 and ending when GEN4 reaches 65% rated load or greater and steady state operation is achieved.

When firing natural gas, *steady state operation* begins 15 minutes after the time when GEN4 is simultaneously in Mode 6 and the first 1-minute block average for NO_x is 9 ppm or less.

When firing distillate fuel, *steady state operation* begins 30 minutes after the time when GEN4 first simultaneously achieves a 1-minute block average for NO_x of 42 ppm or less and a 1-minute block average for CO of 15 ppm or less.

In no case shall the alternate emission limits for turbine startup be applicable for more than 90 minutes for a hot start, 180 minutes for a warm start, or 240 minutes for a cold start. A hot start shall be defined as startup when the generating unit has been down for 2 hours or less. A warm start shall be defined as startup when the generating unit has been down for more than 2 hours and less than or equal to 48 hours. A cold start shall be defined as startup when the generating unit has been down for more than 48 hours.

Shutdown shall be defined as a period of time starting when steady state operation ceases (i.e., GEN4 exceeds a normal operating limit for either NO_x or CO) and ending with cessation of combustion turbine firing, or when the turbine goes into a fired shutdown. Aborted shutdowns shall be included in this definition. Each shutdown period shall not exceed 60 minutes.

Fuel transfer shall be defined as the period of time during which the fuel fired in the turbine is switched from fuel oil to natural gas or from natural gas to fuel oil. This period ends when the turbine reaches steady state operation (as defined for turbine startup) after the fuel switch. Aborted fuel transfers shall be included in this definition. Each fuel transfer period shall not exceed 120 minutes.

To demonstrate compliance, Bucksport Generation shall keep records of the date, time, and duration of any period of turbine startup, shutdown, or fuel transfer.

E. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application submitted by Bucksport Generation does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The proposed revision will not increase emissions of any licensed pollutant. Therefore, the NSR license is determined to be a minor revision under *Minor and Major Source Air Emission License Regulations* 06-096 Code of Maine Rules (C.M.R.) ch. 115. The procedures found in 06-096 C.M.R. ch. 115 can be utilized to process this application since the proposed revision is not prohibited by the Part 70 air emission license. An application to incorporate the requirements of this NSR license into the Part 70 air emission license has been submitted to the Department.

F. Annual Emissions

This license amendment will not change the facility's licensed annual emissions.

ORDER

The Department hereby grants New Source Review Minor Revision A-22-77-24-M pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific conditions below.

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

SPECIFIC CONDITIONS

The following shall replace Condition (1)(N)(3) of NSR License A-22-77-23-M and Conditions (1)(N)(4) and (5) of NSR License A-22-77-22-M:

(1) **GEN4**

N. Turbine Startup, Shutdown, Fuel Transfer, Turbine Cleaning, and Re-Tuning
[06-096 C.M.R. ch. 115, (BACT)]

3. *Turbine startup* shall be defined as a period of time starting with initial combustion in GEN4 and ending when GEN4 reaches 65% rated load or greater and steady state operation is achieved.

When firing natural gas, *steady state operation* begins 15 minutes after the time when GEN4 is simultaneously in Mode 6 and the first 1-minute block average for NO_x is 9 ppm or less.

When firing distillate fuel, *steady state operation* begins 30 minutes after the time when GEN4 first simultaneously achieves a 1-minute block average for NO_x of 42 ppm or less and a 1-minute block average for CO of 15 ppm or less.

In no case shall the alternate emission limits for turbine startup be applicable for more than 90 minutes for a hot start, 180 minutes for a warm start, or 240 minutes for a cold start. A hot start shall be defined as startup when the generating unit has been down for 2 hours or less. A warm start shall be defined as startup when the generating unit has been down for more than 2 hours and less than or equal to 48 hours. A cold start shall be defined as startup when the generating unit has been down for more than 48 hours.

4. *Shutdown* shall be defined as a period of time starting when steady state operation ceases (i.e., GEN4 exceeds a normal operating limit for either NO_x or CO) and ending with cessation of combustion turbine firing, or when the turbine goes into a fired shutdown. Aborted shutdowns shall be included in this definition. Each shutdown period shall not exceed 60 minutes.
5. *Fuel transfer* shall be defined as the period of time during which the fuel fired in the turbine is switched from fuel oil to natural gas or from natural gas to fuel oil. This period ends when the turbine reaches steady state operation (as defined for turbine startup) after the fuel switch. Aborted fuel transfer shall be included in this definition. Each fuel transfer period shall not exceed 120 minutes.

The following New Condition is added to Condition (1)(O) of NSR License A-22-77-22-M:

(1) GEN4

O. Periodic Monitoring

Bucksport Generation shall operate, record data, and maintain records from the following periodic monitors for GEN4:

8. Date, time, and duration of each startup, shutdown, malfunction, and fuel transfer period for GEN4.. [06-096 C.M.R. ch. 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 24th DAY OF MARCH, 2023.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
MELANIE LOYZIM, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/16/2023

Date of application acceptance: 2/17/2023

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

FILED
MAR 24, 2023
State of Maine
Board of Environmental Protection