



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

**General Contractor
Vaughn D. Thibodeau, II Inc.
Waldo County
Prospect, Maine
A-1045-71-D-A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

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 Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

General Contractor Vaughn D. Thibodeau, II, Inc. (Thibodeau) of Prospect, Maine was issued Air Emission License A-1045-71-C-R/M on September 4, 2015, permitting the operation of emission sources associated with their hot mix asphalt plant and crushed stone and gravel facility.

Thibodeau has requested an amendment to their license in order to upgrade their cone crusher and associated generator. In addition, the percent sulfur requirements for distillate fuel shall be updated to reflect the most recent requirements of 38 M.R.S.A §603-A.

Thibodeau is replacing the Roadrunner 36” Cone-Crusher (Serial #CC21-1028) and Generator #2 (Serial #5FAO4336) with the following:

- Cedarapids Eljay rated at 100 tons per hour 45” Rollercone-Crusher (Serial #42DOJ95 manufactured in 1990 and equipped with spray bars for dust control.
- Generator #3 is a Detroit 500 kW generator (Serial #WA527311) manufactured in 2000. It has a maximum firing rate of 35.7 gallons/hr and a maximum heat input capacity of 4.96 MMBtu/hr.

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B. Emission Equipment

The following equipment is addressed in this Air Emission License:

Rock Crushers

<u>Designation</u>	<u>Power Source</u>	<u>Process Rate (tons/hour)</u>	<u>Date of Manufacture</u>	<u>Control Device</u>
Rollercone-Crusher Serial #42DOJ95	Diesel Unit	100	1990	Spray Nozzles

Generator Units

<u>Source ID</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate (gal/hr)</u>	<u>Manufacturer</u>	<u>Fuel Type</u>	<u>Date of Manu.</u>
Generator #3	4.96	35.7	Detroit Serial #WA527311	distillate fuel, 0.0015% sulfur	2000

C. Application Classification

Thibodeau shall continue to be limited to a total of 40,000 gal/year of distillate fuel fired in Generators #1 and #3. Thus, this amendment will not increase emissions of any pollutant and is determined to be a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT

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.

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.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Asphalt Batch Plant

The asphalt batch plant is rated at 150 tons/hr with a 35 MMBtu/hr burning firing distillate fuel, specification waste oil and propane. In October 2015, the Maine Legislature revised 38 MRSA §603-A in order to make the sulfur content levels and applicability dates more consistent with the levels and dates being proposed and adopted by other New England states.

The Asphalt Batch Plant is licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S.A. §603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, beginning July 1, 2018, the distillate fuel purchased or otherwise obtained for use in the Asphalt Batch Plant shall not exceed 0.0015% by weight (15 ppm).

C. Rock Crushers

The previously licensed Roadrunner 36" Cone-Crusher (Serial #CC21-1028) is being replaced with a Cedarapids Eljay 45" Rollercone-Crusher (Serial #42DOJ95). The Rollercone-Crusher is a portable unit manufactured in 1990 with a rated capacity of 100 tons per hour.

1. BACT Findings

The regulated pollutant from the rock crushers is particulate matter emissions. To meet the requirements of BACT for control of particulate matter emissions from the rock crusher, Thibodeau shall maintain water sprays on the rock crusher and operate as needed to control visible emissions. Visible emissions from the rock crusher shall be limited to no greater than 10% opacity on a six (6) minute block average basis.

2. New Source Performance Standards

EPA New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart OOO for Nonmetallic Mineral Processing Plants applies to plants manufactured after August 31, 1983, with capacities greater than 150 tons/hr

for portable plants and greater than 25 tons/hr for non-portable plants. The Rollercone-Crusher is not subject based on the size of this crusher.

D. Generator #3

Generator #3 is a portable engine used as the primary source of power for the rock crushing equipment. It is replacing Generator #2 (Serial #5FAO4336) licensed in A-1045-71-C-R/M. Generator #3 has a maximum capacity of 4.96 MMBtu/hr (500 kw) firing distillate fuel. The generator was manufactured in 2000 and is a Detroit Engine Model WA527311. Generator #1 and Generator #3 shall be limited to firing 40,000 gallons/year on a calendar year total basis of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight).

Distillate Fuel means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396, diesel fuel oil numbers 1 or 2, as defined in ASTM D975, kerosene, as defined in ASTM D3699, biodiesel as defined in ASTM D6751, or biodiesel blends as defined in ASTM D7467.

1. BACT Findings

The BACT emission limits for Generator #3 were based on the following:

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 CMR 103
- SO₂ - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 3.2 lb/MMBtu from AP-42, Table 3.4-1, dated 10/96
- CO - 0.85 lb/MMBtu from AP-42 Table 3.4-1, dated 10/96
- VOC - 0.09 lb/MMBtu from AP-42 Table 3.4-1, dated 10/96
- Opacity - 06-096 CMR 115, BACT

The BACT emission limits for Generator #3 are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Generator #3	PM	0.12

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Generator #3 (4.96 MMBtu/hr) Distillate fuel	0.6	0.6	0.01	15.87	4.22	0.45

Visible emissions from Generator #3 shall not exceed 20% opacity on a 6-minute block average basis.

2. New Source Performance Standards

Generator #3 is considered a non-road engine, as opposed to a stationary engine, since Generator #3 is portable and will be moved to various sites with the asphalt plant. Therefore, Generator # is not subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

3. National Emission Standards for Hazardous Air Pollutants

Generator #3 is considered a non-road engine, as opposed to a stationary engine, since Generator #3 is portable and will be moved to various sites with the crusher. Therefore, Generator #3 is not subject to 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. The definition in 40 CFR Part 1068.30 states that a non-road engine is an internal combustion engine that meets certain criteria, including: "Portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform." 40 CFR Part 1068.30 further states that an engine is not a non-road engine if it remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. An engine located at a seasonal source (a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months, or more, each year) is an engine that remains at a seasonal source during the full annual operating period of the seasonal source.

E. Annual Emissions

No licensed emission increases are occurring as a result of this amendment.

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ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License amendment A-1045-71-D-A, subject to the conditions found in Air Emission A-1045-71-C-R/M and the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License 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.

SPECIFIC CONDITIONS

Replace Condition (16) A. 3. in Air Emission License A-1045-71-C-R/M with the following condition:

(16) Asphalt Batch Plant (150 tons/hr)

A. Fuel Use

3. Per the current dates and requirements of 38 M.R.S.A. §603-A, the facility shall comply with the following statements;
 - i. Prior to July 1, 2018, the facility shall fire distillate fuel with a maximum sulfur content not to exceed 0.5% by weight. [06-096 CMR 115, BPT]
 - ii. Beginning July 1, 2018, the facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 CMR 115, BPT]

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Replace Condition (17) in Air Emission License A-1045-71-C-R/M with the following condition:

(17) Rock Crushers

- A. Thibodeau shall install and maintain spray nozzles for particulate control on the Jaw Crusher and the Rollercone-Crusher and operate them as necessary to limit visible emissions to no greater than 10% opacity on a six (6) minute block average basis. [06-096 CMR 115, BPT and 06-096 CMR 101]
- B. Thibodeau shall maintain records detailing and quantifying the hours of operation on a daily basis for the Jaw Crusher and the Rollercone-Crusher. The operation records shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT]
- C. Thibodeau shall maintain records detailing the maintenance on particulate matter control equipment (including spray nozzles). Thibodeau shall perform monthly inspections of any water sprays to ensure water is flowing to the correct locations and initiate corrective action within 24 hours if water is found to not be flowing properly. Records of the date of each inspection and any corrective action required shall be included in the maintenance records. The maintenance records shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT]
- D. The crushers shall not be attached or clamped via cable, chain, turnbuckle, bolt, or other means (except electrical connections) to any anchor, slab, or structure (including bedrock) that must be removed prior to transportation. [06-096 CMR 115, BPT]

Replace Condition (19) in Air Emission License A-1045-71-C-R/M with the following condition:

(19) Portable Generators #1 and #3

- A. Fuel Use
 - 1. Generator #1 and #3 is licensed to fire distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight). [06-096 CMR 115, BACT]
 - 2. Total fuel use for Generator #1 and Generator #3 shall not exceed 40,000 gal/yr of distillate fuel. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records

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of annual fuel use shall be kept on a monthly and calendar year. [06-096
CMR 115, BPT]

B. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Generator #3	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1 (3.2 MMBtu/hr) distillate fuel	0.38	0.38	0.01	14.11	3.04	1.12
Generator #3 (4.96 MMBtu/hr) distillate fuel	0.60	0.60	0.01	15.87	4.22	0.45

D. Visible emissions from Generators #1 and #3 each shall not exceed 20%
opacity on a six (6) minute block average basis. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 28 DAY OF March, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission
License A-1045-71-C-R/M.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/17/2016
Date of application acceptance: 2/18/2016

Date filed with the Board of Environmental Protection:
This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

