



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

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COMMISSIONER

Dayton Sand & Gravel Company, Inc.
York County
Dayton, Maine
A-190-71-M-A (SM)

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

FINDINGS OF FACT

After review of the air emissions 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

Dayton Sand & Gravel Company, Inc. (Dayton S&G) was issued Air Emission License A-190-71-L-R on June 4, 2014 permitting the operation of emission sources associated with their hot mix asphalt plant, concrete batch plant, and crushed stone and gravel facility.

Dayton S&G has requested an amendment to their license in order to include a limit on asphalt throughput to maintain their synthetic minor status.

The main office for this facility is located at 928 Goodwins Mills Road, Dayton, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Asphalt Plant

Equipment	Process Rate (tons/hour)	Design Capacity Firing Rate	Control Devices	Date of Manufacture
Batch Mix Asphalt Plant	150	109.9 MMBtu/hr, distillate fuel or specification waste oil	Baghouse	Pre-1973

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
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PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

C. Application Classification

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 CMR 100 (as amended). The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significant Emission Levels</u>
PM	6.3	12.9	+6.6	100
PM ₁₀	6.3	12.9	+6.6	100
SO ₂	49.7	49.4	-0.3	100
NO _x	35.7	48.7	+13.0	100
CO	43.4	76.1	+32.7	100
VOC	2.7	3.6	+0.9	50

This modification is determined to be a minor modification and has been processed as such.

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.

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. Amendment Description

Dayton S&G operates an asphalt kiln with a maximum hourly throughput of 150 ton/hr of asphalt and a 109.9 MMBtu/hr burner which fires distillate fuel. Typically, it is assumed that there is a linear relationship between the fuel required for an asphalt plant burner and the plant output. Meaning, it is assumed that to operate at 100% throughput requires the burner to fire at 100%, to operate at 75% throughput requires the burner to fire at 75%,

etc. This assumption allows for an asphalt plant to have its annual emissions limited by placing a fuel limit on the burner.

In this case it has been demonstrated that the asphalt plant is operated significantly more efficiently than originally designed. Dayton S&G is able to operate the burner at a lower firing rate than would be expected for the asphalt output. However, since emission factors for asphalt plants are based on tons of asphalt produced, without the previously mentioned linear relationship between plant output and burner firing rate, a fuel limit on the asphalt plant is no longer sufficient to limit the equipment's annual emissions.

Therefore, Dayton S&G has requested an annual limit on annual asphalt throughput, in addition to the fuel limit, to ensure emissions are limited to less than major source thresholds. Accordingly, the annual throughput of the asphalt plant shall not exceed 350,000 tons of asphalt per year on a 12 month rolling total basis.

C. Annual Emissions

1. Total Annual Emissions

Dayton S&G shall be restricted to the following annual emissions, based on a 12 month rolling total. The tons per year limits were calculated based on the following:

- Emissions of PM/PM₁₀, NO_x, CO, and VOC from the asphalt plant are based on processing 350,000 tons of asphalt per year.
- Emissions of SO₂ from the asphalt plant are based on firing 1,000,000 gal/year of distillate fuel or specification waste oil in the asphalt plant.
- Emissions of SO₂ from the heaters are accounted for in the SO₂ emissions from the asphalt plant fuel limit.
- Emissions of PM/PM₁₀, NO_x, CO, and VOC from the heaters are based on 8760 hr/year operation.
- Emissions from the diesels are based on firing 80,000 gal/yr of distillate fuel.

Total Licensed Annual Emissions for the Facility
Tons/year

(used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Asphalt Plant	10.3	10.3	49.4	21.0	70.0	1.4
Heater #1	0.6	0.6	–	1.1	0.3	0.1
Heater #2	0.7	0.7	–	1.3	0.3	0.1
Heater #3	0.6	0.6	–	1.1	0.3	0.1
Diesels	0.7	0.7	–	24.2	5.2	1.9
Total TPY	12.9	12.9	49.4	48.7	76.1	3.6

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Dayton S&G is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

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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, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-190-71-M-A subject to the conditions found in Air Emission License A-190-71-L-R and in 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.

The following are New Conditions:

- (27) The annual throughput of the asphalt plant shall not exceed 350,000 tons of asphalt per year on a 12 month rolling total basis. Records of asphalt productions shall be kept on a monthly and 12 month rolling total basis. [06-096 CMR 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 3 DAY OF September, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:

Patricia W. Aho
PATRICIA W. AHO, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-190-71-L-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/12/14

Date of application acceptance: 8/12/14

Date filed with the Board of Environmental Protection:

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

