

**F.R. Carroll, Inc.  
York County  
Limerick, Maine  
A-478-71-K-A (SM)**

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

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 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

**I. REGISTRATION**

A. Introduction

1. F.R. Carroll, Inc. (FRC) of Limerick, Maine was issued Air Emission License A-478-71-J-R on October 8, 2004, permitting the operation of emission sources associated with their hot mix asphalt plant, concrete batch plant and their crushed stone and gravel facility.
2. FRC has requested an amendment to their license in order to replace the existing asphalt batch plant with a new one as well as add a generator to power the new asphalt plant.

B. New Emission Equipment

**Asphalt Plant**

<u>Equipment</u>	<u>Process Rate (tons/hour)</u>	<u>Design Capacity (MMBtu/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Control Devices</u>	<u>Date of Manuf.</u>
Batch mix asphalt plant	300	79.9	diesel fuel, 0.05%	Baghouse, Low NO <sub>x</sub> Burner	2007

**Electrical Generation Equipment**

<u>Equipment</u>	<u>Power Output (kW)</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>
Generator #5	1,000	9.7	70.7	diesel fuel, 0.05%

### C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as defined in the Department’s regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	2.4	9.2	+6.8	100
PM <sub>10</sub>	2.4	9.2	+6.8	100
SO <sub>2</sub>	1.3	3.0	+1.7	100
NO <sub>x</sub>	36.1	53.9	+17.8	100
CO	26.2	85.3	+59.1	100
VOC	2.8	4.0	+1.2	50

This modification 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 Chapter 100 of the Department regulations. 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 Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

### B. Asphalt Plant

The dryer was manufactured in 2007 and is therefore subject to EPA New Source Performance Standards (NSPS) Subpart I for Hot Mix Asphalt Facilities manufactured after June 11, 1973. FRC shall perform compliance testing in accordance with 40 CFR Part 60, Subpart 60.93. FRC shall follow the procedures set out by the Department’s air emission compliance test protocol, Conditions (11) and (12) of air emission license A-478-71-J-R, and 40 CFR Part

60 including submitting notification to the Department at least 30 days prior to the anticipated test date.

The dryer fires #2 fuel oil or diesel fuel with a sulfur content not to exceed 0.05%. Fuel use shall not exceed 750,000 gal/year based on a 12 month rolling total.

To meet the requirements of BACT and NSPS, particulate matter (PM) emissions from the asphalt plant dryer shall vent to a baghouse. Opacity from the asphalt batch plant baghouse is limited to no greater than 20% on a six (6) minute block average basis.

Based on a maximum hot mix asphalt plant process rate of 300 ton/hour, the average emission rate from the asphalt baghouse shall be limited to 0.03 grs/dscf (12.75lb/hr).

The performance of the baghouse shall be constantly monitored by either one of the following at all times the dryer is operating:

1. PM detector – when the detector signals excessive PM concentrations in the exhaust stream, FRC shall take corrective action within 24 hours, or immediately if opacity exceeds 20%.
2. Personnel with a current EPA Method 9 visible emissions certification – when the opacity exceeds 20%, the hot mix asphalt plant is operating with insufficient control and corrective action shall be taken immediately.

General process emissions from the asphalt plant shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

FRC may process up to 10,000 cubic yards of soil contaminated by gasoline or #2 fuel oil per year without prior approval from the Department. This limit may be exceeded with written authorization from the Department. The plant owner or operator shall notify the commissioner at least 24 hours prior to processing the contaminated soil and specify the contaminating fuel and quantity, origin of the soil and fuel and the disposition of the contaminated soil.

**C. Generator #5**

Generator #5 is a new 1,000 kW generator to be used to power the new asphalt plant.

A summary of the BACT analysis for Generator #5 (9.7 MMBtu/hr) is the following:

1. The total fuel use for Boiler #3 and Generators #1, #2, #3, #4, and #5 combined shall not exceed 100,000 gal/year of diesel fuel, based on a 12 month rolling total, with a maximum sulfur content not to exceed 0.05% by weight.
2. Chapter 106 regulates fuel sulfur content, however in this case it was determined a more stringent limit of 0.05% was appropriate and shall be used.
3. Chapter 103 regulates PM emission limits. The PM<sub>10</sub> limits are derived from the PM limits.
4. The NO<sub>x</sub>, CO, and VOC emission limits are based on vendor supplied guaranteed not to exceed data.
5. Visible emissions from Generator #5 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

D. Facility Emissions

FRC shall be restricted to the following annual emissions, based on a 12 month rolling total:

**Total Licensed Annual Emissions for the Facility**  
(used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Batch Plant	8.4	8.4	2.6	23.7	78.8	1.6
Generators and Boiler	0.8	0.8	0.4	30.2	6.5	2.4
<b>Total TPY</b>	<b>9.2</b>	<b>9.2</b>	<b>3.0</b>	<b>53.9</b>	<b>85.3</b>	<b>4.0</b>

**III. AMBIENT AIR QUALITY ANALYSIS**

According to the Maine Regulation Chapter 115, the level of air quality analyses required for a minor new source shall be determined on a case-by-case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

## 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 A-478-71-K-A, subject to the conditions found in Air Emission A-478-71-J-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 shall replace Condition (16) of air emission license A-478-71-J-R:**

**(16) Asphalt Plant**

- A. The asphalt plant is subject to 40 CFR Part 60, Subpart A and I. FRC shall comply with the requirements of the Subparts including performing an initial compliance test as required by Part 60. [40 CFR Part 60]
- B. Emissions from the hot mix asphalt plant shall vent to a baghouse, and all components of the asphalt plant shall be maintained so as to prevent PM leaks. [MEDEP Chapter 115, BPT]
- C. The performance of the baghouse shall be constantly monitored by either one of the following at all times the dryer is operating [MEDEP Chapter 115, BPT]:
  1. PM detector – when the detector signals excessive PM concentrations in the exhaust stream, FRC shall take corrective action within 24 hours, or immediately if opacity exceeds 20%.
  2. Personnel with a current EPA Method 9 visible emissions certification – when the opacity exceeds 20%, the asphalt plant is operating with insufficient control and corrective action shall be taken immediately.
- D. To document maintenance of the baghouse, the licensee shall keep a maintenance log recording the date and location of all bag failures as well as

all routine maintenance. The maintenance log shall be kept on-site at the asphalt plant location. [MEDEP Chapter 115, BPT]

- E. Opacity from the baghouse is limited to no greater than 20% on a six (6) minute block average basis. [40 CFR Part 60, Subpart I]
- F. General process emissions from the asphalt plant shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period. [MEDEP Chapter 101]
- G. Fuel use records and receipts for the asphalt dryer shall be maintained for at least six years and made available to the Department upon request. [MEDEP Chapter 115, BPT]
- H. FRC shall be limited to the use of 750,000 gal/year (based on a 12-month rolling total) of #2 fuel oil or diesel fuel with a sulfur content not to exceed 0.05% in the dryer. Emissions from the baghouse shall not exceed the following [MEDEP Chapter 115, BPT]:

<u>Pollutant</u>	<u>grs/dscf</u>	<u>lb/hr</u>
PM	0.03	12.75
PM <sub>10</sub>	-	12.75
SO <sub>2</sub>	-	4.02
NO <sub>x</sub>	-	36.00
CO	-	120.00
VOC	-	2.46

- I. FRC may process up to 10,000 cubic yards of soil contaminated by gasoline or #2 fuel oil per year without prior approval from the Department. This limit may be exceeded with written authorization from the Department. The plant owner or operator shall notify the commissioner at least 24 hours prior to processing the contaminated soil and specify the contaminating fuel and quantity, origin of the soil and fuel and the disposition of the contaminated soil. [MEDEP Chapter 115, BPT]
- J. FRC shall not process soils which are classified as hazardous waste or which have unknown contaminants. [MEDEP Chapter 115, BPT]
- K. When processing contaminated soils, FRC shall maintain records which specify the quantity and type of contaminant in the soil as well as the origin and characterization of the contaminated soil. In addition, when processing contaminated soil, FRC shall maintain records of processing temperature,

asphalt feed rates and dryer throughput on an hourly basis. The material shall be handled in accordance with the requirements of the Bureau of Remediation and Waste Management. [MEDEP Chapter 115, BPT]

The following shall replace Condition (20) of air emission license A-478-71-J-R:

(20) **Generators**

- A. Total fuel use for Boiler #3 and Generators #1, #2, #3, #4, and #5 shall not exceed 100,000 gal/yr of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight. Compliance shall be based on fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [MEDEP Chapter 115, BPT]
- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)
Generator #2	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)
Generator #5	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)

- C. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.66	0.66	0.28	17.60	4.68	0.50
Generator #2	0.43	0.43	0.19	15.88	3.42	1.26
Generator #3	0.23	0.23	0.10	8.38	1.81	0.67
Generator #4	0.10	0.10	0.04	3.53	0.76	0.28
Generator #5	1.16	1.16	0.50	25.71	1.61	0.92

- D. Visible emissions from the generators shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]

The following shall replace Condition (24) of air emission license A-478-71-J-R:

(24) **Equipment Relocation** [MEDEP Chapter 115, BPT]

- A. FRC shall notify the Bureau of Air Quality, by a written notification at least 48 hours prior to relocation of any equipment carried on this license. The notification shall be sent to the address below or to a Department Regional Office:

Attn: Relocation Notice  
Maine DEP  
Bureau of Air Quality  
17 State House Station  
Augusta, ME 04333-0017

Equipment relocation notification can also be done on-line with e-notice at [www.maine.gov/dep/air/compliance/forms/relocation](http://www.maine.gov/dep/air/compliance/forms/relocation).

The notification shall include the address of the equipment's new location, an identification of the equipment and the license number pertaining to the relocated equipment. Written notice may be sent by mail, facsimile (fax), or e-mail.

- B. Written notification shall also be made to the municipality where the equipment will be relocated, except in the case of an unorganized territory where notification will be made to the respective county commissioners.

DONE AND DATED IN AUGUSTA, MAINE THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
DAVID P. LITTELL, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-478-71-J-R.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/12/07

Date of application acceptance: 2/12/07

Date filed with the Board of Environmental Protection: \_\_\_\_\_

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