



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**Maine Central Railroad Company
Kennebec County
Waterville, Maine
A-428-71-H-N/A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License
After the Fact Renewal
& Amendment #1**

FINDINGS OF FACT

After review of the air emissions license renewal and 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

The Air Emission License for Maine Central Railroad Company (MCR) expired on October 3, 2011. MCR has applied to renew their expired license permitting the operation of emission sources associated with their railroad yard and locomotive/railcar maintenance facility.

The equipment addressed in this license is located at 55 College Avenue Waterville, Maine.

MCR has requested an amendment as part of this renewal. In 2010, MCR installed a 0.6 MMBtu/hr diesel fired power washer engine as an in-kind replacement for the previously licensed engine.

In addition, MCR will be installing natural gas at its facility and converting its boilers and heaters to natural gas beginning fall of 2014.

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B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Install. Date</u>	<u>Stack #</u>
Boiler 9A	20.7	138 gph	#6 fuel oil, 0.5% #4 fuel oil, 0.5% Spec. waste oil, 0.7% Natural gas	1976	9A
	19.6	19029 scf/hr			
Boiler 9B	20.7	138 gph	#6 fuel oil, 0.5% #4 fuel oil, 0.5% Spec. waste oil, 0.7% Natural gas	1976	9B
	19.6	19029 scf/hr			
Vat Room Boiler	2.05	17.1 gph	Distillate fuel, 0.35% Natural gas	1976	8
		2039 scf/hr			
Paint Shop Boiler	1.9	16.0 gph	Distillate fuel, 0.35% Natural gas	1976	12
		1845 scf/hr			
Heater #1	1.1	8.9gph	Distillate fuel, 0.35% Natural gas	2010	2
		1068 scf/hr			
Heater #2	1.6	13.0 gph	Distillate fuel, 0.35% Natural gas	2004	3
		1553 scf/hr			

Power Washer Engines

<u>Equipment</u>	<u>Horse Power HP</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Install. Date</u>	<u>Stack #</u>
Power Washer Engine #1	90	0.6	4.3	Distillate fuel, 0.0015%S	2010	4
Power Washer Engine #2	90	0.6	4.3	Distillate fuel, 0.0015%S	2004	5
Power Washer #3	90	0.6	4.3	Distillate fuel, 0.0015%S	1998	6

Process Equipment

<u>Equipment</u>	<u>Pollution Control Equipment</u>	<u>Stack #</u>
Spray Booth	Particulate Filter	Atmosphere
Spray Booth	Particulate Filter	Atmosphere
Sand Blast Booth	Particulate Filter	Atmosphere
Zep Parts Washers (2)	N/A	Atmosphere

C. Application Classification

The previous air emission license for MCR expired on October 3, 2011. A complete application was not submitted prior to the expiration date, therefore MCR is considered to be an existing source applying for an after-the-fact renewal. The Department has determined the facility is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended) with the following fuel limits:

- 250,000 gallons per year of the combination of specification waste oil, #6 fuel oil and #4 fuel oil in Boilers 9A and 9B or a heat input of 37,500 MMBtu/yr if natural gas is fired solely or in combination with waste oil, #6 fuel oil and/or #4 fuel oil.
- 150,000 gallons per year in the Vat Room Boiler, the Paint Shop Boiler and Heaters #1 and #2 or a heat input of 21,000 MMBtu/yr if natural gas is fired solely or in combination distillate fuel.
- 25,000 gallons per year of distillate fuel oil in Power Washer Engines #1, #2 and #3.
- Facility shall not exceed 15.0 tons per year of VOC, 10 tons per year of total Hazardous Air Pollutants (HAP).

MCR has requested to install and fire natural gas in all of its boilers and heaters. Natural gas inherently emits fewer emissions and is generally accepted as a cleaner fuel in comparison to fuel oil. All pollutant emissions will decrease when MCR is firing natural gas with the exception of CO and VOC which total to an increase of less than 2 ton per year.

The facility is licensed below the major source thresholds and is considered a synthetic minor.

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 an after-the-fact renewal requires an analysis similar to a Best Available Control Technology (BACT) analysis per 06-096 CMR 115 (as amended).

BPT for new sources and modifications requires a demonstration that emissions are receiving BACT, as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). 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. Boiler Units

MCR operates Boiler 9A and 9B for heat and hot water needs. Boilers 9A and 9B are each rated at 20.7 MMBtu/hr and fire #6 fuel oil, #4 fuel oil and specification waste oil. When firing natural gas, the boilers are rated at 19.6 MMBtu/hr. The boilers were installed in 1976 and exhaust through individual stacks.

Due to the year of installation, the boilers are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

1. BACT Findings – Boilers 9A and 9B

The BACT emission limits for the boilers were based on the following:

Fuel Oil (#4 fuel oil, #6 fuel oil and specification waste oil)

- PM/PM₁₀ – 0.12 lb/MMBtu based on 06-096 CMR 103
- SO₂ – based on firing ASTM D396 compliant #4 and #6 fuel oil (0.5% sulfur) and specification waste oil (0.7% sulfur); 0.73 lb/MMBtu
- NO_x – 0.37 lb/MMBtu based on previous licenses
- CO – 5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10
- VOC – 0.28 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10
- Opacity – 06-096 CMR 101

The BACT emission limits for the boilers are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 9A (20.7 MMBtu/hr)	2.48	2.48	15.22	7.66	0.69	0.04
Boiler 9B (20.7 MMBtu/hr)	2.48	2.48	15.22	7.66	0.69	0.04

Visible emissions from each boiler firing fuel oil shall not exceed 30% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period.

Natural Gas

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 CMR 115, BACT
- SO₂ – 0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- NO_x – 100 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- CO – 84 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- Opacity – 06-096 CMR 101

The BACT emission limits for the boilers firing natural gas are the following:

Unit	Pollutant	lb/MMBtu
Boiler 9A	PM	0.05
Boiler 9B	PM	0.05

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Boiler 9A (19.6 MMBtu/hr), nat'l gas	0.98	0.98	0.01	1.90	1.60	0.1
Boiler 9B (19.6 MMBtu/hr) nat'l gas	0.98	0.98	0.01	1.90	1.60	0.1

Visible emissions from each boiler firing natural gas shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.

MCR shall be limited to firing no greater than a combined total of 250,000 gallons/yr of a combination of #6 oil with a sulfur content of 0.5%, #4 fuel oil with a sulfur content of 0.5% and specification waste oil with a sulfur content of 0.7% in Boilers 9A and 9B. If natural gas is burned in Boilers 9A and 9B solely or in combination with the other fuels, MCR will be limited to a heat input of 37,500 MMBtu/yr based on a calendar year total.

Please note, only waste oil meeting the criteria "specification" waste oil (as defined in the "Waste Oil Management Rules") shall be burned in Boilers 9A and 9B.

MCR operates several smaller distillate fuel fired boilers to satisfy other facility heating and hot water needs. These boilers include the Vat Room Boiler (2.05 MMBtu/hr), the Paint Shop Boiler (1.9 MMBtu/hr), and two small section heaters designated Heaters #1 and #2 (1.1 and 1.6 MMBtu/hr, respectively). Boilers exhausts through their own individual stacks. All of these boilers are below 10 MMBtu/hr and are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

2. BACT Findings – Vat Room Boiler, Paint Shop Boiler, and Heaters #1 & #2

The BACT emission limits for the boilers were based on the following:

Distillate Fuel

- PM/PM₁₀ – 0.12 lb/MMBtu
- SO₂ – based on firing distillate fuel (0.35% sulfur); 0.35 lb/MMBtu
- NO_x – 0.3 lb/MMBtu based on previous licenses
- CO – 5 lb/1000 gal, AP-42, Table 1.3-1, dated 5/10
- VOC – 0.34 lb/1000 gal, AP-42, Table 1.3-3, dated 5/10

Opacity – Visible emissions from each boiler stack shall not exceed 20% opacity on a 6-minute block average block average, except for no more than 2 six-minute block averages in a 3-hour period. 06-096 CMR 101.2(B)(1)(f)

The BACT emission limits for the boilers are the following:

<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>
Vat Room Boiler (2.05 MMBtu/hr), distillate	0.3	0.3	0.7	0.6	0.1	0.01
Paint Shop Boiler (1.9 MMBtu/hr), distillate	0.2	0.2	0.7	0.6	0.1	0.01
Heater #1 (1.1 MMBtu/hr), distillate	0.1	0.1	0.4	0.3	0.1	0.01
Heater #2 (1.6 MMBtu/hr), distillate	0.2	0.2	0.6	0.5	0.1	0.01

Natural Gas

- PM/PM₁₀ – 0.05 lb/MMBtu based on 06-096 CMR 115, BACT
- SO₂ – 0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- NO_x – 100 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- CO – 84 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- Opacity – 06-096 CMR 101

The BACT emission limits for the boilers are the following:

<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>
Vat Room Boiler (2.05 MMBtu/hr), natural gas	0.10	0.10	0.01	0.20	0.17	0.01
Paint Shop Boiler (1.9 MMBtu/hr), natural gas	0.10	0.10	0.01	0.18	0.15	0.01
Heater #1 (1.1 MMBtu/hr), natural gas	0.06	0.06	0.01	0.11	0.09	0.01
Heater #2 (1.6 MMBtu/hr), natural gas	0.08	0.08	0.01	0.16	0.13	0.01

Visible emissions from each boiler firing natural gas shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.

MCR shall be limited to firing no greater than a combined total of 150,000 gallons/yr of a combination of distillate fuel with a sulfur content of 0.35%, in the Vat Room Boiler, the Paint Shop Boiler, Heater #1, and Heater #2. If natural gas is burned in Vat Room Boiler, the Paint Shop Boiler, Heater #1, and Heater #2, solely or in combination with the other fuels, MCR shall be limited to a heat input of 21,000 MMBtu/yr based on a calendar year total.

Per 38 MRSA §603-A(2)(A)(3), beginning July 1, 2016, the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm).

Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use on a calendar year total basis. Documentation shall include the type of fuel used and sulfur content of the fuels.

3. 40 CFR Part 63 Subpart JJJJJ

Boilers 9A, 9B, Heater #2, the Vat Room Boiler and the Paint Shop Boiler are subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). These units are all considered existing oil boilers. Heater #1 is not subject because it has a heat input less than 1.6 MMBtu/hr, Subpart JJJJJ exempts hot water boilers with heat inputs less than 1.6 MMBtu/hr.

Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJ. However, boilers which fire fuel oil are not. A "gas-fired boiler" is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.[40 CFR Part 63.11237]

Any boiler designed to burn fuels besides gaseous fuels prior to June 4, 2010 will be considered an existing boiler under this rule. A boiler which currently fires gaseous fuels, but converts back to firing another fuel (such as distillate fuel) in the future would become subject as an existing boiler at the time it is converted back to oil.

For fuel burning equipment ot no longer be subject to Subpart JJJJJ, the boiler or heater must meet the requirements of 63.1125(g) and must meet the definition of "gas fired boiler" fa a calendar year.

For informational purposes, a summary of the currently applicable federal 40 CFR Part 63 Subpart JJJJJ requirements is listed below. At this time, the Maine Department of Environmental Protection has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA, however MCR is still subject to the requirements. Notification forms and additional rule information can be found on the following website: <http://www.epa.gov/boilercompliance/>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA was due on January 20, 2014. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program was to be implemented to include the initial tune-up of applicable boilers by March 21, 2014. [40 CFR Part 63.11196(a)(1)]

(b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; however, the burner must be inspected at least once every 36 months. You may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months for boilers greater than 5 MMBtu/hr or 72 months for oil fired boilers less than 5 MMBtu/hr. [40 CFR Part 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. You may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months for boilers greater than 5 MMBtu/hr or 72 months for oil fired boilers less than 5 MMBtu/hr. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent,

before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 CFR Part 63.11223(b)(5)]

6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]
- (c) After conducting the initial boiler tune-up, a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]
- (d) The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.
 1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	Tune-Up Frequency
Boiler 9A & 9B, existing oil boilers > 5MMBtu/hr	Every 2 years
Vat Room, Paint Shop, & Heater #2, existing oil boilers with a heat input capacity of <5 MMBtu/hr	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)]
The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

iii. Energy Assessment

Boilers 9A and 9B are subject to the energy assessment requirement as follows:

- (a) A one-time energy assessment shall be performed by a qualified energy assessor on the applicable boilers was due no later than March 21, 2014. [40 CFR Part 63.11196(a)(3)]
- (b) The energy assessment shall include a visual inspection of the boiler system; an evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator; a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures that are within the facility's control; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
[40 CFR Part 63, Table 2(4)]
- (c) A Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(c)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

C. Power Washer Engines

MCR operates three distillate fuel fired engines, designated Power Washer #1, Power Washer #2, and Power Washer #3 as power sources for the portable pressure washers for cleaning locomotives and rail cars. The engine in Power Washer #1 was replaced with and in-kind engine in 2010. Power Washer Engine #2 is previously licensed equipment. Power Washer #3 was added to this license as part of this renewal. The engines are rated at 0.6 MMBtu/hr and fire distillate fuel. The engines were manufactured in 2010, 2004, and 1998, respectively. Power Washer Engine #1 is considered new equipment; therefore, the application of BACT is required.

1. BACT Findings for Power Washer Engine #1, Power Washer Engine #2 and Power Washer Engine #3

The BACT emission limits for the generators are based on the following:

Distillate Fuel

- PM/PM₁₀ – 0.12 lb/MMBtu for Power Washer Engine #1 & #3 are based on 06-096 CMR 103
- 0.31 lb/MMBtu for Power Washer Engine #2 based on AP-42 Table 3.3-1 (dated 10/96), previous license
- SO₂ – 0.0015 lb/MMBtu based on firing 0.0015% sulfur;
- NO_x – 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
- CO – 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
- VOC – 0.35 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
- Opacity – Visible emissions from each of the diesel-fired engines shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period.

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM₁₀</u> <u>(lb/hr)</u>	<u>SO₂</u> <u>(lb/hr)</u>	<u>NO_x</u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Power Washer #1 (0.6 MMBtu/hr), Distillate	0.07	0.07	0.01	2.65	0.57	0.21
Power Washer #2 (0.6 MMBtu/hr), Distillate	0.19	0.19	0.01	2.65	0.57	0.21
Power Washer #3 (0.6 MMBtu/hr), Distillate	0.07	0.07	0.01	2.65	0.57	0.21

Power Washer #1 & #2 are affixed to the power washer units and are portable. Thus, since the engines are portable, they are not subject to the federal

stationary source engine regulations: 40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ.

The distillate fuel fired in the three Power Washer engines shall not exceed 15 ppm sulfur (0.0015% sulfur). [06-096 CMR 115, BACT]

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by MCR that are approved by the engine manufacturer. MCR may only change those emission-related settings that are permitted by the manufacturer. [06-096 CMR 115, BACT]

2. 40 CFR 63, Subpart ZZZZ

Power Washer #3 was installed in 1998 and is considered a stationary engine; therefore it is subject to the federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines*. The engine is considered existing stationary reciprocating internal combustion engine at an area HAP source and is not subject to New Source Performance Standards regulations.

Operation and Maintenance Requirements for Power Washer #3

	Operating Limitations* (40 CFR §63.6603(a) and Table 2(d))
Compression ignition (distillate fuel) units: Power Washer #3	<ul style="list-style-type: none">- Change oil and filter every 1,000 hours of operation or annually, whichever comes first;- Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Continuous compliance

- a. Operate and maintain engine according to the manufacturer's emission related operation and maintenance instructions; or
- b. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63, Subpart ZZZZ, Table 6]

D. Process Equipment

Painting Process

MCR utilizes spray paint booths for repainting locomotives and railcars. The painting process occurs within a closed room and all of the spray paint booths vent through particulate filters to the atmosphere.

BACT for the control of particulate matter shall be filters on all spray booth vents. BACT shall be no visible emissions from the spray booth vents. MCR shall establish a maintenance, inspection and repair program for the spray paint booths which shall include periodic inspection of the spray booth vent filters to ensure that the filters are in good working order and repair or replacement of any damaged filters. Visible emissions from the spray booth vents shall not exceed 10% opacity on a six-minute block average.

Pollutants associated with the operation of painting equipment are PM, PM₁₀, volatile organic compounds (VOC) and Hazardous Air Pollutants (HAPs). BACT for the painting processes shall include good housekeeping practices to minimize fugitive emissions. Good housekeeping practices include covering paint storage containers when these containers are not in use, maintaining the seal around the suction hose from the paint drum when painting is being performed, cleaning excess and/or spilt material, proper containment and disposal of cleaning fluids from equipment cleaning processes and proper disposal of contaminated working equipment (gloves, coveralls, tools etc).

BACT for VOC emissions shall be a maximum monthly average of 5.0 lb VOC per gallon of coating material. BACT shall also include a finish department annual VOC emission limit of 15.0 TPY (tons per year). Compliance will be based on monthly record keeping indicating the amount of product used on site and the VOC content by weight of the finish.

BACT for HAPs emissions from the painting process is a HAPs emissions limit of 5.0 TPY of any single HAP and 10.0 TPY of all combined HAPs. Compliance will be based on monthly record keeping indicating the amount of product used and percent HAP by weight in each product.

MCR, as a facility that performs surface coating of miscellaneous metal parts and products, could be subject to Chapter 129 of the Department Regulations regarding Surface Coating Facilities. However, MCR performs surface coating of transportation equipment and is therefore not subject to Chapter 129 of the Department Regulations as stated in Chapter 129, section 1, part E (3).

40 CFR Part 63, Subpart HHHHHH

MCR is subject to the federal regulation 40 CFR Part 63, Subpart HHHHHH, *National Emission Standards for Hazardous Air Pollutants (NESHAP): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*. The surface coating performed by MCR falls under the subcategory of miscellaneous surface coating operations.

Spray application

All spray booths, preparation stations, and mobile enclosures must be fitted with a type of filter technology that is demonstrated to achieve at least 98-percent capture of paint overspray. MCR may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement. [40 CFR 63.11173(e)(2)(i)]

Spray booths and preparation stations used by MCR to coat locomotive assemblies and parts must have a full roof, at least three complete walls or complete side curtains, and must be ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process. [40 CFR 63.11173(e)(2)(iii)]

If MCR utilizes mobile ventilated enclosures that are used to perform spot repairs must enclose and, if necessary, seal against the surface around the area being coated such that paint overspray is retained within the enclosure and directed to a filter to capture paint overspray. [40 CFR 63.11173(e)(2)(iv)]

All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology. [40 CFR 63.11173(e)(3)].

All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. A combination of non-atomizing methods may also be used. [40 CFR 63.11173(e)(4)]

Training

MCR must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings to their locomotive parts and assemblies are trained in the proper application of surface coatings. The training program must include, at a minimum, the items listed below:

- (1) A list of all current personnel by name and job description who are required to be trained;
- (2) Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training in the following topics:
 - (i) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
 - (ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.
 - (iii) Routine spray booth and filter maintenance, including filter selection and installation.
 - (iv) Environmental compliance with the requirements of this subpart.
- (3) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. If MRC can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required above are not required to provide the initial training required by that paragraph to these painters.
[40 CFR 63.11173(f)]

Record keeping

MCR must submit the notifications and maintain records required by 40 CFR Part 63 Subpart HHHHHH. These include following: painter training and certification records, notifications, documentation of the filter efficiency of the spray booth exhaust filter, records of any deviations from the requirements in this subpart, records of any assessments of source compliance in support of the required notifications. [40 CFR 63.11175]

E. Shot Blasting Process

MCR utilizes a shot blast process to remove paint from railcars and locomotives before repainting. Before the railcar or locomotive is sent down the paint track to the paint room it is held in the shot blast room where it takes two people approximately 2 hours to shot blast all the paint and rust from the car or locomotive. Dust from the shot blast room is vented through a particulate filter.

Pollutants associated with shot blasting are particulate matter (PM) and particulate matter 10 microns and smaller in size (PM₁₀). BACT for PM and PM₁₀ for the shot blast process shall be closed doors in the shot blast room during shot blast operations, proper operation and maintenance of the filter system. MCR shall establish a maintenance, inspection and repair program for the shot blast booths which shall include periodic inspection of the shot blast booth vent filters to ensure that the filters are in good working order and repair or replacement of any damaged filters. BACT is also good housekeeping in the shot blast operations areas. Good housekeeping includes the cleaning and proper disposal of used or spilled material and proper storage of unused material and equipment.

Visible emissions from the shot blast process and dust collection equipment shall not exceed an opacity of 10% on a 6 minute block average basis.

F. Parts degreasers

MCR has two ZEP parts washers at their facility. The two parts degreasers have capacities of 35 gallons each and utilize Zep Dyna 143 solvent. The parts washer is subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended) and records shall be kept documenting compliance.

MCR shall maintain a record of solvent use that shall include the amount of solvent added to the degreaser units and the dates that the solvent was added. For purposes of record keeping, the amount of solvent used shall be considered as the difference between the amount of solvent added and the amount of solvent removed. If, in the future, MCR switches to a solvent that contains 1% VOC or less for use in the parts degreaser, to satisfy record keeping requirements, MCR need only keep a copy of the MSDS sheet that demonstrates the VOC content of the solvent on file at the MCR Waterville, Maine facility.

G. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

H. General Process Emissions

Visible emissions from any general process source shall not exceed an opacity of 20% 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.

I. Annual Emissions

1. Total Annual Emissions

MCR shall be restricted to the following, based on a calendar year total:

- MCR shall be limited to firing no greater than a combined total of 250,000 gallons per year of a combination of specification waste oil with a sulfur content of no greater than 0.7% sulfur by weight, #6 fuel oil, and #4 fuel oil, with a sulfur content of no greater than 0.5% sulfur by weight in Boilers 9A and 9B or shall be limited to a heat input of 37,500 MMBtu/yr if natural gas is fired solely or in combination with waste oil, # 6 fuel oil and/or #4 fuel oil.
- MCR shall be limited to firing no greater than a total of 150,000 gallons per year of distillate oil with a sulfur content of no greater than 0.35% sulfur by weight in the Vat Room Boiler, the Paint Shop Boiler and Heaters #1 and #2. If natural gas is burned in Vat Room Boiler, the Paint Shop Boiler, Heater #1, and Heater #2, solely or in combination with the other fuels, MCR will be limited to a heat input of 21,000 MMBtu/yr based on a calendar year total.
- MCR shall be limited to firing no greater than a total of 25,000 gallons per year of distillate with a sulfur content of no greater than 0.0015% sulfur by weight in Power Washer Engines #1, #2 and #3.
- MCR shall not exceed a maximum monthly average of 5.0 lb VOC per gallon of coating material and coating department annual VOC emission limit of 15.0 tons per year.

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boiler 9A & 9B	2.3	2.3	13.8	6.9	1.53	0.1
Small boilers	1.3	1.3	3.7	3.2	0.86	0.1
Power Washer No. 1, No. 2, and No. 3	0.5	0.5	0.01	7.6	1.6	0.6
Paint Shop Emissions	-	-	-	-	-	15.0
Total TPY	4.1	4.1	17.5	17.7	4.01	15.8

2. Hazardous Air Pollutants
MCR emits hazardous air pollutants (HAP) through its painting operations and its fuel burning equipment. MCR is limited to 10 tpy of combined HAP and 5 tpy for individual HAP.

3. 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, Maine Central Railroad 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:

<u>Pollutant</u>	<u>Tons/Year</u>
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.

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-428-71-H-N/A subject to 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.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) Fuel

- A. Prior to July 1, 2016, distillate fuel fired in the Vat Room Boiler, the Paint Shop Boiler, Heater #1 and Heater #2 shall have a maximum sulfur of 0.35% by weight. [06-096 CMR 115, BACT]
- B. Beginning July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
- C. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire #2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
- D. MCR shall fire #4 fuel oil and #6 fuel oil with a maximum sulfur content of 0.5% by weight and specification waste oil with a maximum sulfur content of 0.7% by weight in Boiler 9A and 9B. [06-096 CMR 115, BACT]
- E. MCR shall fire distillate fuel with a maximum sulfur content of 0.0015% by weight in Power Washer Engine #1, Power Washer Engine #2, and Power Washer Engine #3. [06-096 CMR 115, BACT]
- F. For all fuel, compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year total basis. [06-096 CMR 115, BACT]

(17) Boilers 9A and 9B

- A. MCR shall be limited to firing no greater than a combined 250,000 gallons per year of a combination of #6 fuel oil, #4 fuel oil and specification waste oil on a calendar year total in Boilers 9A and 9B. If natural gas is fired solely or in combination with waste oil, #6 fuel oil and/or #4 fuel oil, MCR shall be limited to a heat input of 37,500 MMBtu/yr. [06-096 CMR 115, BACT]
- B. Emissions shall not exceed the following when firing #6 fuel oil, #4 fuel oil, and waste oil:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler 9A	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler 9B	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

- C. Emissions shall not exceed the following when firing #6 fuel oil, #4 fuel oil, and waste oil [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 9A	2.48	2.48	15.22	7.66	0.69	0.04
Boiler 9B	2.48	2.48	15.22	7.66	0.69	0.04

[06-096 CMR 115, BACT]

- D. Visible emissions from each of Boilers 9A and 9B when firing #6 fuel oil, #4 fuel oil, and waste oil shall not exceed 30% opacity on a six (6) minute block average, except for no more than one (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

- E. Emissions shall not exceed the following when natural gas:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler 9A	PM	0.05	06-096 CMR 115, BACT
Boiler 9B	PM	0.05	06-096 CMR 115, BACT

- F. Emissions shall not exceed the following when firing natural gas: [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler 9A	0.98	0.98	0.01	1.90	1.60	0.10
Boiler 9B	0.98	0.98	0.01	1.90	1.60	0.10

[06-096 CMR 115, BACT]

- G. Visible emissions from each boiler firing natural gas shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.
 [06-096 CMR 101]

(18) **Vat Room, Paint Shop Boilers, Heater #1 and Heater #2**

- A. MCR shall be limited to firing no greater than a combined 150,000 gallons per year of distillate fuel with a sulfur content of no greater than 0.35% in the Vat Room boiler, the Paint Shop Boilers, and Heater #1 and Heater #2. MRC shall be limited to a heat input of 21,000 MMBtu/yr if natural gas is fired solely or in combination with distillate fuel, on a calendar year total basis. [06-096 CMR 115, BACT]

B. Emissions shall not exceed the following when firing distillate [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Vat Room Boiler	0.3	0.3	0.7	0.6	0.1	0.01
Paint Shop Boiler	0.2	0.2	0.7	0.6	0.1	0.01
Heater #1	0.1	0.1	0.4	0.3	0.1	0.01
Heater #2	0.2	0.2	0.6	0.5	0.1	0.01

C. Visible emissions from each boiler firing distillate fuel shall not exceed 20% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 101]

D. Emissions shall not exceed the following when firing natural gas [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Vat Room Boiler	0.10	0.10	0.01	0.20	0.17	0.01
Paint Shop Boiler	0.10	0.10	0.01	0.18	0.15	0.01
Heater #1	0.06	0.06	0.01	0.11	0.09	0.01
Heater #2	0.08	0.08	0.01	0.16	0.13	0.01

E. Visible emissions from each boiler firing natural gas shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period.

(19) **Power Washer Engines #1, #2, and #3**

A. MCR shall be limited to firing no greater than a total of 25,000 gallons per year of distillate fuel with a sulfur content of no greater than 0.0015% by weight in Power Washer Engines #1, #2, and #3 on a calendar year basis.

B. MCR shall keep records that include maintenance conducted on the engines. [06-096 CMR 115, BACT]

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

<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>
Power Washer Engine #1 (0.6 MMBtu/hr), Distillate	0.07	0.07	0.01	2.65	0.57	0.21
Power Washer Engine #2 (0.6 MMBtu/hr), Distillate	0.19	0.19	0.01	2.65	0.57	0.21
Power Washer Engine #1 (0.6 MMBtu/hr), Distillate	0.07	0.07	0.01	2.65	0.57	0.21

D. Visible Emissions from each engine shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period. [06-096 CMR 101]

E. Power Washer Engine #3 is subject to the following operating limitations:

1. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;
2. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary
[40 CFR §63.6603(a) Subpart ZZZZ, Table 2d]

(20) **National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers at Area Sources** (40 CFR Part 63, Subpart JJJJJ)

- A. MCR shall comply with all the applicable requirements of 40 CFR Part 63, Subpart JJJJJ. Boilers 9A, 9B, the Vat Room Boiler, the Paint Shop Boiler and Heater #2 may be subject to but not limited to, the following:
- B. An initial notification was due to EPA and the Department no later than January 20, 2014. [06-096 CMR 115, BACT and 40 CFR Part 63.11225(a)(2)]
- C. A boiler tune-up program, as described in 40 CFR Part 63.11223, was to be implemented to include the initial tune-up of applicable boilers by March 21, 2014. [06-096 CMR 115, BACT, 40 CFR Part 63.11196(a)(1) and 63.11223(b)]

- D. Subsequent to its initial tune-ups, MCR shall conduct tune-ups of its boilers at a frequency specified below:

Boiler Category	Tune-Up Frequency
Boilers 9A and 9B	Every 2 years
Vat Room Boiler, Paint Shop Boilers, and Heater #2; oil fired existing boilers with a heat input capacity of <5MMBtu/hr	Every 5 years

[06-096 CMR 115, BACT and 40 CFR Part 63.11223(a) and Table 2]

- E. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions.

[06-096 CMR 115, BACT, and 40 CFR Part 63.11223(b)(6) and 63.11225(b)]

- F. A one-time Energy Assessment shall be conducted on Boilers 9A and 9B meeting the requirements specified in Table 2 to Subpart JJJJJ of Part 63, Subcategory 16.

[06-096 CMR 115, BACT, 40 CFR Part 63, Table 2(4) and 40 CFR Part 63.11196(a)(3)]

- G. After conducting the initial boiler tune-up and/or the energy assessment a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [06-096 CMR 115, BACT, and 40 CFR Part 63.11225(a)(4), 40 CFR Part 63.11214(c)]

- H. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual

manner of operation. Records shall be in a form suitable and readily available for expeditious review.

[06-096 CMR 115, BACT, and 40 CFR Part 63.11225(c)]

(21) **Painting Process**

- A. MCR shall establish a maintenance, inspection and repair program for the spray paint booths which shall include periodic inspection of the spray boot vent filters and repair or replacement of any damaged filters. [06-096 CMR 115, BACT]
- B. MCR shall maintain good housekeeping practices to minimize fugitive emissions from the painting process. [06-096 CMR 115, BACT]
- C. MCR shall maintain good housekeeping practices to minimize fugitive emissions from the painting process. VOC emissions from the use of paints shall be documented by monthly record keeping indicating the amount of coatings used on site and the VOC content of the coatings. MCR shall not exceed a monthly average of 5.0 pounds of VOC per gallon of coating material and MCR shall be restricted to a coating department annual VOC emission limit of 15.0 tons per year. [06-096 CMR 115, BACT]
- D. HAP emissions shall be documented by monthly record keeping indicating the amount of products used and the percent of HAP content of each product. Total facility HAP emissions shall be limited to 5.0 tons per year of any single HAP and 10.0 tons per year of all combined HAP. [06-096 CMR 115, BACT]
- E. Visible emissions from the spray booth vents shall not exceed 10% opacity on a six-minute block average. [06-096 CMR 115, BACT]
- F. Facility shall comply with all requirements of 40 CFR Part 63, Subpart HHHHHH applicable to its surface coating operations including, but not limited to, the following:
 - 1. All spray booths, preparation stations, and mobile enclosures must be fitted with a type of filter technology that is demonstrated to achieve at least 98-percent capture of paint overspray. MCR may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement. [06-096 CMR 115, BACT and 40 CFR 63.11173(e)(2)(i)]
 - 2. Spray booths and preparation stations used by MCR to coat locomotive assemblies and parts must have a full roof, at least three complete walls or

complete side curtains, and must be ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process.

[06-096 CMR 115, BACT , and 40 CFR 63.11173(e)(2)(iii)]

3. All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency meeting the requirements of 40 CFR 63.11173(e)(3).

[06-096 CMR 115, BACT and 40 CFR 63.11173(e)(3).]

4. All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. A combination of non-atomizing methods may also be used.

[06-096 CMR 115, BACT and 40 CFR 63.11173(e)(4)]

5. MCR must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings to their locomotive parts and assemblies are trained in the proper application of surface coatings as described in 40 CFR 63.11173(f).

[06-096 CMR 115, BACT and 40 CFR 63.11173(f)]

6. MCR must submit the notifications required by subpart HHHHHH which include: painter training and certification records, notifications, documentation of the filter efficiency of the spray booth exhaust filter, records of any deviations from the requirements in this subpart, records of any assessments of source compliance in support of the required notifications.

[06-096 CMR 115 and 40 CFR 63.11175]

(22) **Shot Blasting**

- A. MCR shall keep all doors closed to the shot blast room during shot blast operations. [06-096 CMR 115]
- B. MCR shall establish maintenance, inspection and repair program for the shot blast booths which shall include periodic inspection of the shot blast booth vent filters to ensure that the filters are in good working order and repair or replacement of any damaged filters. [06-096 CMR 115]
- C. MCR shall also make use of good housekeeping practices in the cleaning and proper disposal of used or spilt material and proper storage of unused material and equipment. [06-096 CMR 115]

D. Visible emissions from the shot blast booth vents shall not exceed 10% opacity on a six-minute block average. [06-096 CMR 115]

(23) **Parts Washer**

Parts washers at MCR are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended).

- A. MCR shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]
- B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
 2. Wipe cleaning; and,
 3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under Chapter 130.
1. MCR shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
 - (i) Waste solvent shall be collected and stored in closed containers.
 - (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - (vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
 - (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
 - (viii) Work area fans shall not blow across the opening of the degreaser unit.
 - (ix) The solvent level shall not exceed the fill line.

2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

(24) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

(25) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% 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. [06-096 CMR 101]

- (26) MCR shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 6 DAY OF April, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marci Allen Robert Carré for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: October 10, 2012

Date of application acceptance: October 11, 2012

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

