



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION | AUGUSTA, MAINE 04333-0017
DEPARTMENT ORDER

Berwick Iron & Metal Recycling, Inc.
York County
Berwick, Maine
A-1041-71-F-A

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

I. Registration

A. Introduction

Berwick Iron & Metal Recycling, Inc. (BIMR) was issued Air Emission License A-1041-71-C-R on December 11, 2015, for the operation of emission sources associated with their ferrous and non-ferrous metal recycling facility.

This license completes the processing of the application with the following submission number as assigned by the Department: 603220 (accepted 4/13/2026).

The equipment addressed in this license amendment is located at 106 Route 236, Berwick, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (HP)	Fuel Type	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.
Diesel Drive Unit	27.4	3,600	Distillate fuel	200	1980	2026
<i>Diesel Drive Unit*</i>	27.4	3,600	<i>Distillate fuel</i>	200	1967	2010

* Removed from license.

C. Definitions

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) 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.

Records or Logs mean either hardcopy or electronic records.

D. Application Classification

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

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

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emissions Levels
PM	1.2	1.2	0	100
PM ₁₀	1.2	1.2	0	100
PM _{2.5}	1.2	1.2	0	100
SO ₂	0.1	0.1	0	100
NO _x	19.6	19.6	0	100
CO	8.7	8.7	0	100
VOC	0.9	0.9	0	50*

* BIMR is located in an area of the state included in the Ozone Transport Region. Therefore, the significant emissions level for VOC is 50 tpy.

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

E. Facility Classification

With the annual fuel use limit on the Diesel Drive Unit, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because BIMR is subject to license restrictions that keep facility emissions below major source thresholds for NO_x and CO; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

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 C.M.R. ch. 100. 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 *Definitions Regulation*, 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Diesel Drive Unit

BIMR is licensed to operate a distillate-fired engine, referred to as the Diesel Drive Unit, rated at 3,600 hp (rated input of 27.4 MMBtu/hr) to drive a metal shredder to facilitate the recycling of cars and other large scrap items. This engine has recently failed, and BIMR is seeking to replace it with a similar engine. Both the existing and replacement engines are 20-cylinder turbocharged General Motors Model 20-645-E3 locomotive engines. The existing engine was manufactured in 1967, and the replacement engine was manufactured in 1980. The replacement engine, also designated the Diesel Drive Unit, has a heat input rating of 27.4 MMBtu/hr.

1. BACT Findings

BIMR submitted a BACT analysis for control of emissions from the Diesel Drive Unit, summarized below.

a. Particulate Matter (PM, PM₁₀, PM_{2.5})

BIMR identified several potential strategies for control of particulate matter emissions from the Diesel Drive Unit including use of a newer EPA-certified

engine such as an EMD 710 series Tier 2/Tier 3 engine or equivalent modern platform, upgraded fuel injection, an improved turbocharger and air management system, a diesel particulate filter, and good combustion and maintenance practices.

A more modern engine could potentially reduce particulate emissions by up to 90% and has been identified as the most effective overall control option. However, this would require significant modification or rebuilding of the engine pad, shredder building, structural supports, and drive train, electrical integration, cooling system upgrades, and control system replacement. Considering the limited facility operations, this is not considered economically feasible.

The proposed engine has been fitted with GM Ecotip fuel injectors, which are designed to optimize the fuel input pattern and improve fuel efficiency. According to the manufacturer, these injectors reduce fuel use by 3% and particulate emissions by 44%. This is considered both technically and economically feasible, and has been proposed as BACT.

Turbocharged engines use a turbine in the exhaust stream to power a separate compressor turbine in the air intake manifold. BIMR's proposed engine will be turbocharged and equipped with a GM/Electro-Motive four-pass aftercooler. The turbocharger helps improve combustion efficiency and increase power to minimize fuel use and emissions of products of incomplete combustion, while the aftercooler helps to decrease the combustion air temperature. The turbocharger and aftercooler are expected to reduce PM/PM₁₀/PM_{2.5} emissions by 10 to 20%. This is considered both technically and economically feasible, and has been proposed as BACT.

Diesel particulate filters are capable of reducing PM emissions by 85 to 95%. However, they are not well suited for use with large two-stroke locomotive engines due to the high exhaust flow, elevated ash loading, and regeneration difficulties. Additionally, installation of a diesel particulate filter would require modification of the existing exhaust system and existing catalytic oxidizer system. A diesel particulate filter is not considered technically feasible.

Proper operation and good combustion and maintenance practices help ensure proper operation of the diesel drive unit, thereby minimizing emissions. This includes controlling the shredder operations using integrated hardware and software to reduce energy usage, which in turn reduces emissions from the diesel drive unit. The plant is equipped with an automatic system for controlling operations such as shredder feed rate, feed roll pressure, engine throttle position, and catalytic oxidizer temperature. By

monitoring relevant variables, these controls optimize motor performance and control the feed rate, resulting in increased production efficiency, improved product, increased nonferrous recovery, and reduced power cost per ton. This reduced energy consumption also means that the engine fuel use will be minimized and that the loading is more consistent, reducing the potential for surging and/or lugging, thereby minimizing emissions from the drive unit. This is considered both technically and economically feasible and has been proposed as BACT.

BACT for PM/PM₁₀/PM_{2.5} emissions from the Diesel Drive Unit is the use of GM Ecotip fuel injectors, the use of a turbocharger with associated aftercooler, proper operation and good combustion and maintenance practices, an annual fuel use limit of 150,000 gal/year of distillate fuel, and the emission limits listed in the tables below.

b. Sulfur Dioxide (SO₂)

BIMR has proposed to fire only distillate fuel with a maximum sulfur content of 15 ppm in the Diesel Drive Unit. Additional add-on pollution controls are not economically feasible.

BACT for SO₂ emissions from the Diesel Drive Unit is use of distillate fuel with a maximum sulfur content not to exceed 15 ppm, an annual fuel use limit of 150,000 gal/year of distillate fuel, and the emission limits listed in the tables below.

c. Nitrogen Oxides (NO_x)

BIMR identified several potential strategies for control of NO_x emissions from the Diesel Drive Unit including use of a newer EPA-certified engine such as an EMD 710 series Tier 2/Tier 3 engine or equivalent modern platform, ignition timing retard (ITR), an improved turbocharger and air management system, selective catalytic reduction (SCR), selective non-catalytic reduction (SNCR), and good combustion and maintenance practices.

A more modern engine could potentially reduce NO_x emissions by up to 80% and has been identified as the most effective overall control option. However, this would require significant modification or rebuilding of the engine pad, shredder building, structural supports, and drive train, electrical integration, cooling system upgrades, and control system replacement. Considering the limited facility operations, this is not considered economically feasible.

ITR delays the fuel injector timing to minimize peak combustion temperature, resulting in a decrease in NO_x emissions. Based on AP-42 Table 3.4-1, ITR reduces NO_x emissions by approximately 41%. This is considered both technically and economically feasible, and has been proposed as BACT.

An improved turbocharger and air management system is described above and has been identified as BACT for control of PM/ PM₁₀/PM_{2.5}. The decrease in combustion temperature provided by the aftercooler associated with the turbocharger will also serve to reduce NO_x emissions. This has been proposed as BACT.

SCR is an add-on NO_x control system designed to treat the exhaust stream by injecting urea or ammonia into the flue gas. The reagent reacts with the NO_x in the presence of a catalyst to form water and nitrogen. Potential NO_x reduction in diesel engines can range from 50% to 90%. These systems are well suited to steady-state operations such as electric generators but are less suited to intermittent operations with wide ranges of engine load. Load fluctuations are typical in BIMR's process, which can cause variations in exhaust temperature and NO_x concentration and create problems with the effectiveness of the SCR system, in addition to causing ammonia slip, which is the emission of unreacted reagent, and has a significant negative environmental impact. SCR is not considered technically feasible for control of NO_x from the Diesel Drive Unit.

SNCR is also used as an add-on NO_x control and involves the injection of ammonia or urea into the exhaust stream without the use of a catalyst. The reduction reaction typically requires ammonia injection at a point where the temperature is between 1,600 and 2,100 °F. However, the exhaust temperature from the Diesel Drive Unit is expected to be 750 °F. Therefore, SNCR is not considered technically feasible.

Good combustion and maintenance practices as described above for the reduction of PM emissions will also reduce NO_x emissions, and have been proposed as BACT.

BACT for NO_x emissions from the Diesel Drive Unit is the use of ITR, the use of a turbocharger with associated aftercooler, proper operation and good combustion and maintenance practices, an annual fuel use limit of 150,000 gal/year of distillate fuel, and the emission limits listed in the tables below.

d. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)

BIMR identified several potential strategies for control of CO and VOC emissions from the Diesel Drive Unit including upgraded fuel injectors, an improved turbocharger and air management system, an oxidation catalyst, and good combustion and maintenance practices.

Upgraded fuel injectors, an improved turbocharger and air management system, and good combustion and maintenance practices as described above for the control of PM and NO_x emissions will also reduce emissions of CO and VOC, and have been proposed as BACT.

BIMR currently operates a catalytic oxidizer on the shredder engine and proposes to use the existing catalytic oxidizer for the replacement engine. This would be a drop-in replacement requiring no additional cost or expenditure. The catalytic oxidizer is a DCL Model DC69.5-22/24. The oxidizer is designed to control the diesel exhaust emissions to a level of 23 ppm CO at 15% O₂ or to reduce CO levels by 70% across the catalyst. The most recent emissions test showed CO reductions of 86%. BIMR has proposed to conduct emissions testing for CO within 180 days of startup of the replacement engine.

BACT for CO emissions from the Diesel Drive Unit is determined to be the use of upgraded fuel injectors, an improved turbocharger and air management system, an oxidation catalyst, good combustion and maintenance practices, an annual fuel use limit of 150,000 gal/year of distillate fuel, and the emission limits listed in the tables below.

e. Emission Limits

The BACT emission limits for the Diesel Drive Unit were based on the following:

PM/PM ₁₀ /PM _{2.5}	– 0.12 lb/MMBtu based on 06-096 C.M.R. ch. 103
SO ₂	– Combustion of distillate fuel with a sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
NO _x	– 1.9 lb/MMBtu from AP-42 Table 3.4-1 dated 4/25
CO	– 0.85 lb/MMBtu from AP-42 Table 3.4-1 dated 4/25
VOC	– 0.09 lb/MMBtu from AP-42 Table 3.4-1 dated 4/25
Visible Emissions	– 06-096 C.M.R. ch. 101

The BACT emission limits for the Diesel Drive Unit are the following:

Unit	Pollutant	lb/MMBtu
Diesel Drive Unit	PM	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Diesel Drive Unit	3.29	3.29	3.29	0.04	52.06	23.29	2.47

Visible emissions from the Diesel Drive Unit shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time BIMR shall either meet the normal operating visible emissions standard or the following work practice standards and alternative visible emissions standard.

- (1) The duration of the startup shall not exceed 30 minutes per event;
- (2) Visible emissions shall not exceed 50% opacity on a six-minute block average basis; and
- (3) BIMR shall keep records of the date, time, and duration of each startup.

Use of the work practice standards and alternative visible emissions standard in lieu of the normal operating standard is limited to no more than once per day.

Note: This does not limit the engine to one startup per day. It only limits the use of the alternative emission standard to once per day.

2. New Source Performance Standards (NSPS)

Due to the date of manufacture of the compression ignition engine listed above, the engine is not subject to the New Source Performance Standards (NSPS) *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*, 40 C.F.R. Part 60, Subpart IIII since the unit was manufactured prior to April 1, 2006. [40 C.F.R. § 60.4200]

3. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart ZZZZ

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is applicable to the Diesel Drive Unit. It is considered an existing, non-

emergency, stationary compression ignition (CI) reciprocating internal combustion engine (RICE) at an area source of HAP.

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart ZZZZ requirements is listed below.

a. Operation Requirements

- (1) BIMR shall limit the concentration of CO in the exhaust to 23 ppmvd at 15% O₂ or reduce CO emissions across the oxidation catalyst by 70% or more. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2d]
- (2) BIMR shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2d]
- (3) BIMR shall maintain the catalyst so that the pressure drop across the oxidation catalyst does not change by more than 2 inches of water from the pressure drop across the oxidation catalyst measured during the most recent passing performance test. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2b]
- (4) BIMR shall maintain the temperature of the exhaust so that the oxidation catalyst inlet temperature is maintained between 450 °F and 1,350 °F on a 4-hour rolling average basis. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2b]

b. Crankcase Filtration

BIMR shall operate on the Diesel Drive Unit either with a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere or with an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. [40 C.F.R. § 63.6625(g)]

c. Continuous Parameter Monitoring System (CPMS)

- (1) BIMR shall install, operate, and maintain a CPMS on the Diesel Drive Unit for monitoring the oxidation catalyst inlet temperature and pressure drop levels across the oxidation catalyst.

- (2) BIMR shall monitor the oxidation catalyst inlet temperature and reduce this data to 4-hour rolling averages to demonstrate compliance with the limitations on the oxidation catalyst inlet temperature range.
- (3) BIMR shall measure and record the pressure drop across the oxidation catalyst once per month to demonstrate compliance with the operating limit established during the most recent passing performance test.
- (4) BIMR shall prepare a site-specific monitoring plan that includes the following:

 - (a) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
 - (b) Sampling interface (e.g., thermocouple) location such that the monitoring systems will provide representative measurements;
 - (c) Equipment performance evaluations, system accuracy audits, or other audit procedures;
 - (d) Ongoing operation and maintenance procedures; and
 - (e) Ongoing reporting and recordkeeping procedures.
- (5) The CPMS shall be continuously operated in accordance with the site-specific monitoring plan at all times that the Diesel Drive Unit is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities.
- (6) The CPMS shall collect data on the oxidation catalyst inlet temperature at least once every 15 minutes.
- (7) The minimum tolerance for a CPMS measuring temperature is 5 °F (2.8 °C) or 1% of the measurement range, whichever is larger.
- (8) CPMS audit procedures shall be performed at least annually.

[40 C.F.R. § 63.6625(b), § 63.6635, and Table 6]

d. Performance Tests

- (1) BIMR shall conduct an initial performance test in accordance with Table 4 of 40 C.F.R. Part 63, Subpart ZZZZ within 180 days of initial startup of the Diesel Drive Unit. [40 C.F.R. § 63.6612(a)]

- (2) BIMR shall perform performance tests every 8,760 hours of operation or 3 years, whichever comes first. (Due to the annual fuel use limit for the Diesel Drive Unit, it is expected the 3 years will always come first.) [40 C.F.R. § 63.6640(a), Table 3, and Table 6]
- (3) BIMR shall conduct three separate test runs for each performance test. Each test run must be at least 1 hour unless otherwise specified in the test protocol and approved by the Department. [40 C.F.R. § 63.6620(d)]
- (4) During a performance test, the facility must establish the pressure drop across the catalyst to be used to demonstrate compliance per the CPMS. [40 C.F.R. § 63.6630(b)]
- (5) If the facility changes the oxidation catalyst material, BIMR shall reestablish the values of the operating parameters measured during the most recent passing performance test. In order to reestablish the operating parameters, the facility shall conduct a performance test to demonstrate that the required emission limitation is being met. [40 C.F.R. § 63.6640(b)]

e. Ultra-Low Sulfur Distillate Fuel Requirement

The distillate fuel fired in the Diesel Drive Unit shall not exceed 15 ppm sulfur (0.0015% sulfur) by weight. [40 C.F.R. 63.6604(a)]

f. General Requirement to Minimize Emissions

At all times BIMR shall operate and maintain the Diesel Drive Unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 C.F.R. § 63.6605(b)]

g. Reporting

BIMR shall submit to EPA all reports required by Subpart ZZZZ including, but not limited to, the following:

- (1) Notification of Intent to conduct a performance test at least 60 days before a performance test is scheduled to begin. [40 CFR §63.6645(g)]
- (2) Semiannual Compliance Reports shall cover the period between January 1 and June 30 or July 1 through December 31 of each year and shall be postmarked by July 31 or January 31 as applicable. The Semiannual Compliance Report shall include the following information:

- (a) Company name and address;
- (b) Statement by a responsible official, with the official's name, title, and signature, certifying the accuracy of the content of the report;
- (c) Date of report and beginning and ending dates of the reporting period;
- (d) If there was a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.;
- (e) If there are no deviations from any applicable emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period;
- (f) If there were no periods during which the continuous monitoring system (CMS), i.e. CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.; and
- (g) If there were periods of deviation from an emission or operating limitation occurring where the CPMS is used to comply with the emission and operating limitation, the Semiannual Compliance Report shall also include the following information:
 - i. The date and time that each malfunction started and stopped;
 - ii. The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks;
 - iii. The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8);
 - iv. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period;
 - v. A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period;
 - vi. A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, or other known causes, and other unknown causes;
 - vii. A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the Diesel Drive Unit during that reporting period;

- viii. An identification of each parameter and pollutant that was monitored;
- ix. A brief description of stationary RICE (Diesel Drive Unit);
- x. A brief description of the CMS;
- xi. The date of the last CMS certification or audit; and
- xii. A description of any changes in CMS, processes, or controls since the last reporting period.

[40 C.F.R. § 63.6650 and Table 7]

h. Recordkeeping

BIMR shall keep all records required by Subpart ZZZZ including, but not limited to, the following:

- (1) Records of the occurrence and duration (in hours) of each malfunction of operation of the engine, pollution control equipment, or monitoring equipment.
- (2) Records of actions taken during periods of malfunction to minimize emissions, including corrective actions taken to restore normal operation.
- (3) Records of maintenance conducted on the Diesel Drive Unit and control equipment to demonstrate the equipment was operated and maintained according to the maintenance plan.

[40 C.F.R. § 63.655]

C. Performance Test Protocol

For any performance testing required by this license, BIMR shall submit to the Department a performance test protocol, as outlined in the Department's Performance Testing Guidance, at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BACT]

Performance Testing Guidance is available on [the Department's Emissions Testing webpage; https://www.maine.gov/dep/air/emissions/testing.html](https://www.maine.gov/dep/air/emissions/testing.html).

D. Annual Emissions

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

**Berwick Iron & Metal Recycling, Inc.
York County
Berwick, Maine
A-1041-71-F-A**

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**Departmental
Findings of Fact and Order
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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 Amendment A-1041-71-F-A subject to the conditions found in Air Emission License A-1041-71-C-R and the following conditions.

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

Specific Conditions

The following shall replace Condition (16) of Air Emission License A-1041-71-C-R:

(16) Diesel Drive Unit

A. Fuel

1. Total fuel use for the Diesel Drive Unit shall not exceed 150,000 gal/yr of distillate fuel, on a 12-month rolling total basis.
[06-096 C.M.R. ch. 115, BACT]
2. 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 C.M.R. ch. 115, BACT and 40 C.F.R. § 63.6604(a)]
3. Compliance shall be demonstrated by fuel records showing the quantity, type, and the percent sulfur of the fuel delivered or fuel used. Records of annual fuel use shall be kept on a monthly and 12-month rolling total basis. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier, a statement from the supplier that the fuel delivered meets Maine's fuel sulfur content standards, fuel supplier certification, certificate of analysis, or testing of fuel in the tank on-site.
[06-096 C.M.R. ch. 115, BACT]

B. The Diesel Drive Unit shall be equipped with, operate, and maintain Ecotip Injectors, a four-pass intercooler, ignition timing retard, and an oxidation catalyst. [06-096 C.M.R. 115, BACT]

C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Diesel Drive Unit	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Diesel Drive Unit	3.29	3.29	3.29	0.04	52.06	23.29	2.47

E. Visible Emissions

Visible emissions from the Diesel Drive Unit shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time BIMR shall either meet the normal operating visible emissions standard or the following work practice standards and alternative visible emissions standard.

1. The duration of the startup shall not exceed 30 minutes per event;
2. Visible emissions shall not exceed 50% opacity on a six-minute block average basis; and
3. BIMR shall keep records of the date, time, and duration of each startup.

Use of the work practice standards and alternative visible emissions standard in lieu of the normal operating standard is limited to no more than once per day.

Note: This does not limit the engine to one startup per day. It only limits the use of the alternative emission standard to once per day.
[06-096 C.M.R. ch. 101, § 4(A)(4)]

F. The Diesel Drive Unit shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ, including the following:
[incorporated under 06-096 C.M.R. ch. 115, BACT]

1. Operation Requirements

- a. BIMR shall limit the concentration of CO in the exhaust to 23 ppmvd at 15% O₂ or reduce CO emissions across the oxidation catalyst by 70% or more. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2d]
- b. BIMR shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2d]
- c. BIMR shall maintain the catalyst so that the pressure drop across the oxidation catalyst does not change by more than 2 inches of water from the pressure drop across the oxidation catalyst measured during the most recent passing performance test. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2b]
- d. BIMR shall maintain the temperature of the exhaust so that the oxidation catalyst inlet temperature is maintained between 450 °F and 1,350 °F on a 4-hour rolling average basis. [40 C.F.R. Part 63, Subpart ZZZZ, Table 2b]

2. Crankcase Filtration

BIMR shall operate on the Diesel Drive Unit either with a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere or with an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. [40 C.F.R. § 63.6625(g)]

3. Continuous Parameter Monitoring System (CPMS)

- a. BIMR shall install, operate, and maintain a CPMS on the Diesel Drive Unit for monitoring the oxidation catalyst inlet temperature and pressure drop levels across the oxidation catalyst.
- b. BIMR shall monitor the oxidation catalyst inlet temperature and reduce this data to 4-hour rolling averages to demonstrate compliance with the limitations on the oxidation catalyst inlet temperature range.

- c. BIMR shall measure and record the pressure drop across the oxidation catalyst once per month to demonstrate compliance with the operating limit established during the most recent passing performance test.
- d. BIMR shall prepare a site-specific monitoring plan that includes the following:
 - (1) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
 - (2) Sampling interface (e.g., thermocouple) location such that the monitoring systems will provide representative measurements;
 - (3) Equipment performance evaluations, system accuracy audits, or other audit procedures;
 - (4) Ongoing operation and maintenance procedures; and
 - (5) Ongoing reporting and recordkeeping procedures.
- e. The CPMS shall be continuously operated in accordance with the site-specific monitoring plan at all times that the Diesel Drive Unit is operating except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities.
- f. The CPMS shall collect data on the oxidation catalyst inlet temperature at least once every 15 minutes.
- g. The minimum tolerance for a CPMS measuring temperature is 5 °F (2.8 °C) or 1% of the measurement range, whichever is larger.
- h. CPMS audit procedures shall be performed at least annually.

[40 C.F.R. § 63.6625(b), § 63.6635, and Table 6]

4. Performance Trials

- a. BIMR shall conduct an initial performance test in accordance with Table 4 of 40 C.F.R. Part 63, Subpart ZZZZ within 180 days of initial startup of the Diesel Drive Unit. [40 C.F.R. § 63.6612(a)]
- b. BIMR shall perform performance tests every 8,760 hours of operation or 3 years, whichever comes first. (Due to the annual fuel use limit for the Diesel Drive Unit, it is expected the 3 years will always come first.) [40 C.F.R. § 63.6640(a), Table 3, and Table 6]

- c. BIMR shall conduct three separate test runs for each performance test. Each test run must be at least 1 hour unless otherwise specified in the test protocol and approved by the Department. [40 C.F.R. § 63.6620(d)]
- d. During a performance test, the facility must establish the pressure drop across the catalyst to be used to demonstrate compliance per the CPMS. [40 C.F.R. § 63.6630(b)]
- e. If the facility changes the oxidation catalyst material, BIMR shall reestablish the values of the operating parameters measured during the most recent passing performance test. In order to reestablish the operating parameters, the facility shall conduct a performance test to demonstrate that the required emission limitation is being met. [40 C.F.R. § 63.6640(b)]

5. General Requirements to Minimize Emissions

At all times BIMR shall operate and maintain the Diesel Drive Unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 C.F.R. § 63.6605(b)]

6. Reporting

BIMR shall submit to EPA all reports required by Subpart ZZZZ including, but not limited to, the following:

- a. Notification of Intent to conduct a performance test at least 60 days before a performance test is scheduled to begin. [40 CFR §63.6645(g)]
- b. Semiannual Compliance Reports shall cover the period between January 1 and June 30 or July 1 through December 31 of each year and shall be postmarked by July 31 or January 31 as applicable. The Semiannual Compliance Report shall include the following information:
 - (1) Company name and address;
 - (2) Statement by a responsible official, with the official's name, title, and signature, certifying the accuracy of the content of the report;
 - (3) Date of report and beginning and ending dates of the reporting period;
 - (4) If there was a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission

limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.;

- (5) If there are no deviations from any applicable emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period;
- (6) If there were no periods during which the continuous monitoring system (CMS), i.e. CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.; and
- (7) If there were periods of deviation from an emission or operating limitation occurring where the CPMS is used to comply with the emission and operating limitation, the Semiannual Compliance Report shall also include the following information:
 - (a) The date and time that each malfunction started and stopped;
 - (b) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks;
 - (c) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8);
 - (d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period;
 - (e) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period;
 - (f) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, or other known causes, and other unknown causes;
 - (g) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the Diesel Drive Unit during that reporting period;
 - (h) An identification of each parameter and pollutant that was monitored;
 - (i) A brief description of stationary RICE (Diesel Drive Unit);
 - (j) A brief description of the CMS;
 - (k) The date of the last CMS certification or audit; and
 - (l) A description of any changes in CMS, processes, or controls since the last reporting period.

7. Recordkeeping

BIMR shall keep all records required by Subpart ZZZZ including, but not limited to, the following:

- a. Records of the occurrence and duration (in hours) of each malfunction of operation of the engine, pollution control equipment, or monitoring equipment.
- b. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions taken to restore normal operation.
- c. Records of maintenance conducted on the Diesel Drive Unit and control equipment to demonstrate the equipment was operated and maintained according to the maintenance plan.

[40 C.F.R. § 63.655]

Berwick Iron & Metal Recycling, Inc.
York County
Berwick, Maine
A-1041-71-F-A

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

The following is a new condition:

(21) Additional Information

If the Department determines that any parameter value pertaining to construction and operation of the emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, BIMR may be required to submit additional information. Upon written request from the Department, BIMR shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter. [06-096 C.M.R. ch. 115, § 2(O)]

Done and Dated in Augusta, Maine this 10th day of JULY, 2026.

Department of Environmental Protection

BY:


for Melanie Loyzim, Commissioner

The term of this license amendment shall be concurrent with the term of Air Emission License A-1041-71-C-R (issued 12/11/2015). BIMR has submitted a timely renewal application and therefore Air Emission License A-1041-71-C-R shall remain in effect until the Department takes final action on the license renewal application.

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

Please note attached sheet for guidance on appeal procedures.

Date of initial receipt of application: April 1, 2026

Date of application acceptance: April 13, 2026

This Order prepared by Benjamin Goundie, Bureau of Air Quality.