



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

DEPARTMENT ORDER

**Sprague Operating Resources LLC
Cumberland County
South Portland, Maine
A-179-71-R-M**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #2**

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

Sprague Operating Resources LLC (Sprague) was issued Air Emission License A-179-71-P-R/M on March 2, 2018, for the operation of emission sources associated with their bulk petroleum storage and distribution facility. The license was subsequently amended on January 2, 2020 (A-179-71-Q-A).

Sprague has requested a minor revision to their license in order to incorporate requirements of a Consent Decree between the United States Environmental Protection Agency (EPA) and Sprague (Civil Action No. 1:20-cv-11026-LTS, D. Me., 2021).

In addition, the Department clarifies in this amendment how compliance with existing facility-wide emissions limits shall be demonstrated.

The equipment addressed in this license amendment is located at 59 Main Street, South Portland, Maine.

B. Emission Equipment

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

Bulk Storage Equipment

Tank Number	Safe Fill Capacity (gallons)	Product Currently Stored	Tank Type
7	3,800,370	Empty ¹	Vertical, Fixed Roof
201	590,604	Asphalt	Vertical, Fixed Roof
202	592,242	Asphalt	Vertical, Fixed Roof
208	4,553,766	Asphalt	Vertical, Fixed Roof
209	3,108,798	Asphalt	Vertical, Fixed Roof
215	1,034,460	Asphalt	Vertical Fixed Roof

¹ Tank 7 previously stored #6 fuel oil. This tank has been emptied and cleaned. Tank 7 is designated as a tank that may be used to store asphalt in the future.

C. Definitions

Continuously. With respect to the operation of parameter monitors required by this license, *continuously* means providing equally spaced data points with at least one valid data point in each successive 15-minute period.

Heated Bulk Storage Tank means a bulk storage tank, capable of being heated, with a capacity greater than 210,000 gallons containing either #6 fuel oil or asphalt. Pursuant to this definition, Tanks 7, 201, 202, 208, 209, and 215 are heated bulk storage tanks.

D. Revision Description

This license amendment addresses the following items:

1. Incorporation of Consent Decree Provisions

Sprague entered into a Consent Decree (Civil Action No. 1:20-cv-11026-LTS, D. Me., 2021) with EPA that became effective on January 15, 2021. Although the Consent Decree applies to several Sprague facilities throughout New England, Appendix G addresses requirements specific to the South Portland facility. The Consent Decree required Sprague to apply to amend its air emission license within 60 days of the effective date to incorporate conditions at least as stringent as those set forth in paragraphs 1, 2, and 3 of Appendix G of the Consent Decree. Those requirements are:

- a. Sprague shall operate no more than six (6) heated bulk storage tanks containing asphalt.

Note: As of issuance of this license, Sprague only has five heated bulk storage tanks licensed to store asphalt.

- b. Notwithstanding paragraph (a) above, Sprague may convert one of the heated bulk storage tanks from asphalt to #6 fuel oil if both of the following conditions have been met:
 - (1) Sprague shall provide 90 days advance notice to EPA and the Department of its intent to convert one heated bulk storage tank to #6 fuel oil operations and obtain advance written approval for such conversion from both EPA and the Department; and
 - (2) Sprague shall offset seven (7) tons per year of volatile organic compounds (VOC) emissions through VOC emissions reductions at its New England facilities.
- c. Sprague shall not exceed a throughput of 105 million gallons per year (gpy) for asphalt on a 12-month rolling total basis.
- d. In the event that #6 fuel oil storage is resumed in accordance with paragraph (b) above, Sprague shall not exceed a throughput of 10 million gpy for #6 fuel oil on a 12- month rolling total basis.

These conditions are incorporated into Sprague's air emission license in this amendment.

The Consent Decree also requires Sprague to install, operate, and maintain vents, demisters, and carbon beds (collective, "Carbon System") for all heated bulk storage tanks to reduce odors from the tanks.

The Bureau of Air Quality does not have the authority to regulate odor. Although the Department expects this equipment will reduce emissions of VOC to some extent, the effectiveness in reducing VOC emissions is unknown. Additionally, the Consent Decree did not establish any VOC control effectiveness requirement for this equipment. Therefore, the Department does not consider the Carbon System to be emissions control equipment for the purposes of this license amendment, and their operation or efficiency shall not be relied upon to demonstrate compliance with emission limits contained in this license amendment. In other words, all emissions calculations and compliance demonstrations will be performed assuming no reduction of VOC emissions by the mist eliminator or carbon bed.

2. Compliance with Existing Facility-Wide Limits

The requirements of the Consent Decree are intended to limit potential emissions from Sprague to below 50 ton per year (tpy) of VOC, the major source threshold for VOC.

However, Sprague is already subject to a facility-wide emission limit of 49.9 tpy pursuant to Condition (21)(A) of Air Emission License A-179-71-P-R/M issued 3/2/2018. In this license amendment, the Department is clarifying and re-affirming that this emission limit is inclusive of all emissions of VOC from the facility including, but not limited to, emissions from the following:

- Petroleum Bulk Storage Tanks (both heated and unheated);
- The Loading Racks - including loading of trucks not required to be controlled by the vapor recovery unit (VRU);
- Tank Maintenance Activities (e.g., tank degassing, tank cleaning);
- Losses from Facility Piping; and
- Combustion Equipment (e.g., boilers and heaters).

The approved methods for calculating actual emissions from the facility to demonstrate compliance with the annual VOC emission limit are addressed in the Best Practical Treatment (BPT) section below.

E. 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.

A “modification” is defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100 as any physical change or change in the method of operation of a source that would result in the emission increase of any regulated pollutant. (Some noted exceptions are also included in the definition.) The operational limits imposed by the Consent Decree do not absolve Sprague of the existing requirement to limit facility-wide emissions of VOC to 49.9 tpy. The proposed license changes are points of clarification and not physical changes or changes in the method of operation of the source. None of the changes proposed in this amendment meet the definition of modification; therefore, this amendment is determined to be a minor revision and has been processed as such through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

F. Facility Classification

With the annual fuel limit on the heaters and Boiler #6 as well as the VOC and hazardous air pollutant (HAP) limits associated with the storage tanks, the facility is licensed as follows:

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

Emissions of VOC are licensed above 80% of the major source threshold. Therefore, this facility is classified as an “80% Synthetic Minor” for the purpose of determining the minimum required compliance inspection frequency in accordance with Maine’s Compliance Monitoring Strategy.

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 was previously determined to include a facility-wide VOC emission limit of 49.9 tpy on a 12-month rolling total basis pursuant to Air Emission License A-179-71-P-R/M (issued 3/2/2018), Condition (21)(A). This license amendment clarifies the scope of that limit and establishes the monitoring, testing, and recordkeeping to be used to demonstrate compliance with that limit.

B. Facility-Wide VOC Limit Scope

Sprague’s facility-wide VOC emission limit includes emissions from all licensed emissions equipment and processes as listed above.

The scope of this emission limitation does not include emissions from non-licensed equipment or processes which are considered insignificant activities pursuant to 06-096 C.M.R. ch. 115, Appendix B.

C. Compliance Demonstration

Compliance with the facility-wide VOC emission limit shall be demonstrated by calculating actual emissions at least once annually as required by *Emission Statements*, 06-096 C.M.R. ch. 137. However, Sprague shall maintain records necessary to calculate annual VOC emissions for any consecutive 12-month period and shall provide a demonstration of compliance with the facility-wide VOC emission limit for any consecutive 12-month period upon request by the Department.

Actual VOC emissions shall be calculated as follows with all emissions summed to provide an annual total:

1. Heated Bulk Storage Tanks

As outlined in the Consent Decree and Sprague's application, vents from all the heated bulk storage tanks will be routed to a Carbon System. The operation of this equipment necessitates the collection of emissions and for a flow to be induced. These conditions will allow for more accurate testing of emissions than was previously practicable.

Therefore, representative emissions from the heated bulk storage tanks shall be determined through emissions testing conducted annually with no more than 14 months between tests. Initial testing shall be performed no later than November 1, 2021. Testing shall be conducted such that emission factors are developed for both standing losses (i.e., periods when no tanks are being filled) and working losses (i.e., periods when at least one tank is actively being filled). Additional details of how the emissions testing will be conducted will be addressed in the test protocol, which is required to be submitted to and approved by the Department in accordance with the Bureau of Air Quality's Performance Testing Guidance. Sprague shall develop updated emission factors after each subsequent emissions test. When calculating emissions from the heated bulk storage tanks, Sprague shall use emission factors developed from the most recent emissions test.

Testing shall be performed under conditions that represent normal, maximum operation. To document normal operating conditions, both during the test and throughout the year, Sprague shall continuously monitor and record the liquid temperature of each heated tank and maintain a log of the date and time of any changes to the blower fan speed setting (i.e., off, low, or high) of the heated tank vent collection system.

Sprague shall conduct the emissions testing both upstream and downstream of the Carbon System. Since this equipment is not considered to be licensed emissions control equipment, testing must be performed prior to the exhaust stream entering the system. Although it is assumed this equipment will reduce VOC emissions, Sprague must demonstrate compliance without taking this benefit into account. No (zero) reduction efficiency or emissions reduction will be allowed in the calculations for this equipment's use. This will ensure that the emission factors developed are conservatively high, meaning emissions will always be over-estimated and never under-estimated for this equipment.

A heated bulk storage tank shall be assumed to be emitting at its normal rate, determined through required emissions testing, unless the tank is being (or has been) emptied and degassed or the temperature of the stored product is below 130 °F. At these temperatures the stored product is a solid.

Until initial testing is completed, Sprague shall estimate emissions from the heated bulk storage tanks using emission factors developed from previous site-specific testing conducted by Eastmount Environmental Services, Inc. (Eastmount) at Sprague's Searsport facility in 2012 for asphalt and in 2013 for #6 fuel oil.

2. Non-Heated Bulk Storage Tanks

VOC emissions from non-heated bulk storage tanks shall be calculated in accordance with the methodology contained in the most current version of EPA's Compilation of Air Emission Factors (AP-42), Fifth Edition, Volume 1, Chapter 7, *Liquid Storage Tanks*.¹

3. Tank Maintenance

Emissions from tank maintenance (both planned and unplanned), including tank degassing and cleaning, shall be included when calculating the facility's annual facility-wide VOC emissions. Emissions from these operations shall be calculated in accordance with the methodology contained in the most current version of AP-42, Fifth Edition, Volume 1, Chapter 7.

4. Loading Racks

Sprague utilizes two McGill vapor adsorption units (VRUs) on the loading racks to control emissions of VOC when loading trucks for which the most recent previous load was gasoline. This equipment is subject to an emission limit of 10 milligrams of VOC per liter of product transferred. Compliance is demonstrated by performance testing conducted every three years. VOC emissions from the VRUs shall be based on the liters of product transferred and the emission rate demonstrated at the most recent performance test.

Emissions from the loading of trucks for which the most recent previous load was not gasoline are not required to be controlled by the VRUs. Sprague shall estimate emissions from the uncontrolled loading of asphalt and #6 fuel oil by using emission factors developed from previous site-specific testing conducted at Sprague's Searsport facility in 2012 for asphalt and in 2013 for residual oil. Uncontrolled loading of any distillate product shall be calculated in accordance with the most current version of AP-42, Fifth Edition, Volume 1, Chapter 5.2, *Transportation and Marketing of Petroleum Liquids*.²

¹ <https://www3.epa.gov/ttn/chief/ap42/ch07/index.html>

² <https://www3.epa.gov/ttn/chief/ap42/ch05/index.html>

5. Facility Piping

Operation of the facility's equipment will result in fugitive emissions of VOC from the plant's piping. Sprague shall keep an updated inventory of equipment (e.g., valves, pump seals, connectors, flanges, etc.) and calculate fugitive emissions using emission factors obtained from EPA's *Protocol for Equipment Leak Emission Estimates*, EPA-453/R-95-017, dated November 1995.³

6. Combustion Equipment

Combustion equipment, including Boiler #6 and Heaters #1 - #3, emit small amounts of VOC due to incomplete combustion. VOC emissions from this equipment shall be estimated based on the amount of fuel fired and the equipment's licensed emission limits.

D. Recordkeeping Requirements

Sprague shall keep the following records in order to calculate emissions as described above for compliance demonstration with the facility-wide annual VOC and HAP emission limits:

1. VOC emission factors developed from the most recent emissions testing for the heated bulk storage tanks for both standing and working losses;
2. Hours the heated bulk storage tanks spent being filled (i.e., experiencing working losses) on a monthly basis;
3. Monthly throughput for each heated and non-heated bulk storage tank;
4. Equipment and product information necessary to calculate emissions from the non-heated bulk storage tanks in accordance with AP-42, Chapter 7;
5. Process and product information necessary to calculate emissions from tank maintenance operations in accordance with AP-42, Chapter 7;
6. For loading rack emissions controlled by the VRUs, liters of product transferred on a monthly basis;
7. VOC emission rate demonstrated at the most recent performance test for the VRUs;
8. Equipment and product information necessary to calculate emissions from the loading rack for emissions not controlled by the VRUs in accordance with AP-42, Chapter 5.2;
9. Equipment and product information necessary to calculate emissions from facility piping in accordance with EPA's *Protocol for Equipment Leak Emission Estimates*; and
10. Fuel use on a monthly basis for Boiler #6 and Heaters #1 - #3.

³ <https://www3.epa.gov/ttnchie1/efdocs/equiplks.pdf>

E. Operational Monitoring

Sprague shall record data and maintain records for the following monitoring values for the heated bulk storage tanks and their Carbon System, once this equipment is installed and operational:

1. Liquid temperature (hourly average) of each in-service heated tank monitored and recorded continuously; and
2. Log (written or electronic) documenting the date and time of any changes to the blower fan speed on the heated tank vent collection system and the blower fan speed setting (off, low, or high).

To allow time for the facility to select, purchase, and install the required monitoring equipment, monitoring of liquid temperature as described above shall commence no later than 90-days from the issuance date of this license or upon the Carbon System becoming operational, whichever is later. The log for blower fan speed shall be required upon the Carbon System becoming operational.

F. Annual Emissions

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

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-179-71-R-M subject to the conditions found in Air Emission License A-179-71-P-R/M, in amendment A-179-71-Q-A, 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 (21) of Air Emission License A-179-71-P-R/M:

(21) Annual VOC/HAP Emission Limits

- A. Sprague shall not exceed a facility-wide emission limit of 49.9 tpy of VOC on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]
- B. Sprague shall not exceed a facility-wide emission limit of 9.9 tpy for all HAP combined on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]
- C. Compliance with the facility-wide VOC emission limit shall be demonstrated by calculating actual emissions at least once annually as required by *Emission Statements*, 06-096 C.M.R. ch. 137. [06-096 C.M.R. ch. 115, BPT]
- D. Compliance with the facility-wide HAP emission limit shall be demonstrated by calculating actual emissions at least once every three years as required by *Emission Statements*, 06 096 C.M.R. ch. 137. [06-096 C.M.R. ch. 115, BPT]
- E. Sprague shall maintain records necessary to calculate annual VOC or HAP emissions for any consecutive 12-month period and shall provide a demonstration of compliance with the facility-wide VOC and HAP emission limits for any consecutive 12-month period upon request by the Department. [06-096 C.M.R. ch. 115, BPT]
- F. Actual emissions of VOC shall be calculated as follows with all emissions summed to provide an annual total:
[06-096 C.M.R. ch. 115, BPT]
 - 1. Heated Bulk Storage Tanks
 - a. VOC emissions from the heated bulk storage tanks shall be determined through emissions testing conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 25A or other test method approved by the Department. Emissions tests shall be conducted annually with no more than 14 months between tests. Initial testing shall be performed no later than November 1, 2021.
 - b. Emissions testing shall be conducted in accordance with the Bureau of Air Quality's Performance Testing Guidance and the Performance Test Protocol as approved by the Department.
 - c. The emissions testing shall be conducted both upstream and downstream of the Carbon System.

- d. After each emissions test is conducted, Sprague shall develop emission factors for both standing losses (i.e., periods when no tanks are being filled) and working losses (i.e., periods when at least one tank is actively being filled). The emission factors shall not assume any VOC control efficiency due to the Carbon System. When calculating emissions from the heated bulk storage tanks, Sprague shall use emission factors developed from the most recent emissions test.
- e. Until initial testing (as described above) is completed, Sprague shall estimate emissions from the heated bulk storage tanks using emission factors developed from previous testing conducted at Sprague's Searsport facility in 2012 for asphalt and 2013 for residual oil.
- f. Heated tanks shall be assumed to be emitting at their normal operating (heated) rate unless the tank is being (or has been) emptied and degassed or the temperature of the stored product is below 130 °F.

2. Non-Heated Bulk Storage Tanks

VOC emissions from non-heated bulk storage tanks shall be calculated in accordance with the methodology contained in the most current version of EPA's Compilation of Air Emission Factors (AP-42), Fifth Edition, Volume 1, Chapter 7, *Liquid Storage Tanks*.

3. Tank Maintenance

VOC emissions from tank maintenance operations (both planned and unplanned), including tank degassing and cleaning, shall be calculated in accordance with the methodology contained in the most current version of AP-42, Fifth Edition, Volume 1, Chapter 7.

4. Loading Racks

- a. VOC emissions from the VRUs shall be based on the liters of product transferred and the emission rate demonstrated at the most recent emissions test.
- b. Emissions from the loading of trucks for which the most recent previous load was not gasoline are not required to be controlled by a VRU. Sprague shall estimate emissions from the uncontrolled loading of asphalt and #6 fuel oil by using emission factors developed from previous testing conducted at Sprague's Searsport facility in 2012 for asphalt and in 2013 for residual oil. Uncontrolled loading of any distillate product shall be calculated in accordance with the most current version of AP-42, Fifth Edition, Volume 1, Chapter 5.2, *Transportation and Marketing of Petroleum Liquids*.

5. Facility Piping

Sprague shall keep an updated inventory of system components (e.g., valves, pump seals, connectors, flanges, etc.) and the number of each, and calculate fugitive emissions using emission factors obtained from EPA's *Protocol for Equipment Leak Emission Estimates*, EPA-453/R-95-017, dated November 1995.

6. Combustion Equipment

Combustion equipment, including Boiler #6 and Heaters #1 - #3 emit small amounts of VOC due to incomplete combustion. VOC emissions from this equipment shall be estimated based on the amount of fuel fired and the equipment's licensed emission limits.

G. Sprague shall keep the following records in order to calculate emissions as described above for compliance demonstration with the facility-wide annual VOC and HAP emission limits: [06-096 C.M.R. ch. 115, BPT]

1. VOC emission factors developed from the most recent emissions testing for the heated bulk storage tanks for both standing and working losses;
2. Hours the heated bulk storage tanks spent being filled (i.e., experiencing working losses) on a monthly basis;
3. Monthly throughput for each heated and non-heated bulk storage tank;
4. Equipment and product information necessary to calculate emissions from the non-heated bulk storage tanks in accordance with AP-42, Chapter 7;
5. Process and product information necessary to calculate emissions from tank maintenance operations in accordance with AP-42, Chapter 7;
6. For loading rack emissions controlled by the VRUs, liters of product transferred on a monthly basis;
7. VOC emission rate demonstrated at the most recent performance test for the VRUs;
8. Equipment and product information necessary to calculate emissions from the loading rack for emissions not controlled by the VRUs in accordance with AP-42, Chapter 5.2;
9. Equipment and product information necessary to calculate emissions from facility piping in accordance with EPA's *Protocol for Equipment Leak Emission Estimates*; and
10. Fuel use on a monthly basis for Boiler #6 and Heaters #1 - #3.

H. Sprague shall record data and maintain records for the following monitoring values for the heated bulk storage tanks and the Carbon System, once this equipment is installed and operational:

1. Liquid temperature (hourly average) of each in-service heated tank monitored and recorded continuously; and
2. Log (written or electronic) documenting the date and time of any changes to the blower fan speed on the heated tank vent collection system and the blower fan speed setting (off, low, or high).

Monitoring of liquid temperature as described above shall commence no later than 90 days from the issuance date of this license or upon the Carbon System becoming operational, whichever is later. Documentation of blower fan speed shall commence upon the Carbon System becoming operational.

[06-096 C.M.R. ch. 115, BPT]

The following are New Conditions:

(25) EPA Consent Decree

The following Conditions are incorporated under 06-096 C.M.R. ch. 115, BPT pursuant to the requirements of Sprague's Consent Decree (Civil Action No. 1:20-cv-11026-LTS, D. Me., 2021) with EPA which became effective on January 15, 2021:

- A. Sprague shall operate no more than six (6) heated bulk storage tanks containing asphalt.
- B. Notwithstanding paragraph (A) above, Sprague may convert one of the heated bulk storage tanks from asphalt to #6 fuel oil if both of the following conditions have been met:
 1. Sprague shall provide 90 days advance notice to EPA and the Department of its intent to convert one heated bulk storage tank to #6 fuel oil operations and obtain advance written approval for such conversion from both EPA and the Department; and
 2. Sprague shall offset seven (7) tons per year of volatile organic compounds (VOC) emissions through VOC emissions reductions at its New England facilities.
- C. Sprague shall not exceed a throughput of 105 million gallons per year (gpy) for asphalt on a 12-month rolling total basis.
- D. In the event that #6 fuel oil storage is resumed in accordance with paragraph (B) above, Sprague shall not exceed a throughput of 10 million gpy for #6 fuel oil on a 12-month rolling total basis.

**Sprague Operating Resources LLC
Cumberland County
South Portland, Maine
A-179-71-R-M**

14

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #2**

(26) Consent Decree Recordkeeping

Records documenting compliance with the requirements of the Consent Decree listed in Condition (25) shall be maintained and made available to the Department and/or EPA upon request. [06-096 C.M.R. ch. 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF , 2021.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
MELANIE LOYZIM, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-197-71-P-R/M.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 3/10/2021

Date of application acceptance: 3/11/2021

Date filed with the Board of Environmental Protection:

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