



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

DEPARTMENT ORDER

**New England Waste Services of ME, Inc.
d/b/a Pine Tree Landfill
Penobscot County
Hampden, Maine
A-850-71-E-R/A**

**Departmental
Findings of Fact and Order
Air Emission License
Renewal with Amendment**

FINDINGS OF FACT

After review of the air emission license renewal and amendment applications, 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

New England Waste Services of ME, Inc. d/b/a Pine Tree Landfill (PTL) is a secure special waste landfill which ceased accepting waste in 2009 and which operates three engines to produce electricity from the gas produced by the landfill. The equipment addressed in this license is located at 358 Emerson Mill Road in Hampden, Maine.

PTL was issued a Part 70 license pursuant to the requirements of *Part 70 Air Emission License Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 140 on June 18, 2013 (A-850-70-D-R/A). An application to renew the Part 70 license was received by the Department and accepted for processing on December 15, 2017.

PTL has requested a New Source Review (NSR) license amendment to discontinue use of the facility's landfill gas-to-energy (LFGTE) plant and to re-evaluate Best Available Control Technology (BACT) for emissions of sulfur dioxide (SO₂).

With removal of the LFGTE plant engines, PTL will no longer have the potential to emit more than 100 tons per year (tpy) of particulate matter (PM), particulate matter under 10 micrometers (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), or carbon monoxide (CO) or 50 tpy of volatile organic compounds (VOC). PTL also does not have the potential to emit more than 10 tpy of any single hazardous air pollutant (HAP) or 25 tpy of all HAP combined. Additionally, PTL is a closed landfill which was never subject to the requirement to install a control system pursuant to *Standards of Performance for Municipal Solid Waste Landfills*, 40 C.F.R. Part 60, Subpart WWW. Thus, PTL is not required to maintain a Part 70 license under this regulation pursuant to § 60.752(d). Therefore, with the changes outlined in this license, PTL will no longer be considered a Part 70 major source. The pending Part 70 renewal application was converted to a renewal of a minor

source license. So, in addition to a license modification, this licensing action is considered a minor source license renewal.

B. Emission Equipment

The following emission units are addressed in this air emission license:

Emission Unit ID	Capacity
Solid Waste Landfill	3,890,000 cubic yards (2,974,118 cubic meters)
Flare #3	90 MMBtu/hr

The following emission units are removed from this air emission license:

Landfill Gas-To-Energy Engines

Equipment	Maximum Heat Input Capacity (MMBtu/hr)	Fuel Type	TRS Limit (ppmv)	Date Commenced Construction	Manufactured Date	Stack #
Engine #1	10.8	Landfill Gas,	1,000	10/30/06	2/7/07	1
Engine #2	10.8	Natural Gas,	1,000	10/30/06	2/7/07	2
Engine #3	10.8	& Propane	1,000	10/30/06	2/7/07	3

PTL may operate small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the link below.

<http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf>

Additionally, PTL may operate portable engines used for maintenance or emergency-only purposes. These engines are considered insignificant activities and are not required to be included in this license. However, they may still be subject to applicable State and Federal regulations.

PTL may operate aqueous-based parts washers. Cleaning solutions which contain less than 5% VOC, do not meet the definition of solvent cleaning machine, have no applicable requirements in *Solvent Cleaners*, 06-096 C.M.R. ch. 130. Therefore, they are considered insignificant activities.

C. Definitions

Portable or Non-Road Engine means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

An engine is not a non-road (portable) engine if it remains or will remain at a location for more than 12 consecutive months or for a shorter period of time if sited at a seasonal source. A seasonal source is a source that remains in a single location for two years or more and which operates for fewer than 12 months in a calendar year. If an engine operates at a seasonal source for one entire season, the engine does not meet the criteria of a non-road (portable) engine and is subject to applicable stationary engine requirements.

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 application for PTL does not violate any applicable federal or state requirements. The application does seek to modify a Best Available Control Technology (BACT) analysis performed per New Source Review.

The modification of a major source is considered a major or minor modification based on whether or not expected emissions increases exceed the “Significant Emission Increase” levels as given in *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. For a major stationary source, the expected emissions increase from each new, modified, or affected unit may be calculated as equal to the difference between the post-modification projected actual emissions and the baseline actual emissions for each NSR regulated pollutant.

1. Baseline Actual Emissions

Baseline actual emissions (BAE) are equal to the average annual emissions from any consecutive 24-month period within the ten years prior to submittal of a complete license application. PTL has proposed using 1/2018 – 12/2019 as the 24-month baseline period from which to determine baseline actual emissions for all pollutants for emission units affected as part of this project.

BAE for PTL are based on approved emissions inventory submissions submitted to the Department in accordance with *Emission Statements*, 06-096 C.M.R. ch. 137. The results of this baseline analysis are presented in the table below.

Baseline Actual Emissions (1/2018 – 12/2019 Average)

PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	SO ₂ (tpy)	NO _x (tpy)	CO (tpy)	VOC (tpy)
0.4	0.4	0.4	6.6	6.8	29.0	0.8

2. Projected Actual Emissions

Projected actual emissions (PAE) are the maximum actual annual emissions anticipated to occur in any one of the five years (12-month periods) following the date existing units resume regular operation after the project or any one 12-month period in the ten years following if the project involves increasing the unit's design capacity or its potential to emit of a regulated pollutant.

PTL has conservatively used the facility's licensed potential to emit for projected actual emissions. These PAE were based on the average landfill gas flowrate for 2018 and 2019 with a safety factor of two (i.e., the average flowrate was doubled) to account for potential temporary short-term increases in flow. The landfill gas flowrate has decreased since the landfill closed and is anticipated that this trend will continue.

Emissions of SO₂ were based on a proposed annual emission limit as described in the BACT analysis contained in this license.

Projected actual emissions are shown below.

Projected Actual Emissions

PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	SO ₂ (tpy)	NO _x (tpy)	CO (tpy)	VOC (tpy)
2.9	2.9	2.9	28.0	11.7	63.5	40.4

3. Emissions Increases

Emissions increases are calculated by subtracting BAE from the PAE. The emission increase is then compared to the significant emissions increase levels.

Pollutant	Baseline Actual Emissions 1/2018 – 12/2019 (ton/year)	Projected Actual Emissions (ton/year)	Emissions Increase (ton/year)	Significant Emissions Increase Levels (ton/year)
PM	0.4	2.9	+2.5	25
PM ₁₀	0.4	2.9	+2.5	15
PM _{2.5}	0.4	2.9	+2.5	10
SO ₂	6.6	28.0	+21.4	40
NO _x	6.8	11.7	+4.9	40
CO	29.0	63.5	+34.5	100
VOC	0.8	40.4	+39.6	40

4. Classification

Since emissions increases do not exceed significant emissions increase levels, the NSR amendment associated with this license is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

Since facility-wide emissions are below major source thresholds, this license is also considered a renewal of a minor source under 06-096 C.M.R. ch. 115.

E. Facility Classification

With the limits on annual criteria pollutant and HAP emissions contained in the Order section of this license, the facility is licensed as follows:

- As a synthetic minor source of air emissions, because PTL is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; 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.

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. Solid Waste Landfill

PTL operates and maintains a municipal solid waste landfill. The landfill stopped accepting waste in late 2009.

1. New Source Performance Standards (NSPS)

PTL is not subject to *Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014*, 40 C.F.R. Part 60, Subpart XXX. PTL is a closed landfill that has not initiated any activities that would be considered a construction, reconstruction, or modification since July 17, 2014.

PTL is subject to *Standards of Performance for Municipal Solid Waste Landfills*, 40 C.F.R. Part 60, Subpart WWW. These standards apply to MSW landfills which commenced construction, reconstruction, or modification between May 30, 1991 and July 18, 2014. Landfills must continue to comply with Subpart WWW until it either becomes subject to more stringent requirements through an approved state or federal plan which implements 40 C.F.R. Part 60, Subpart Cf or it becomes subject to 40 C.F.R. Part 60, Subpart XXX as described above.

In November 2001, PTL submitted an Initial Design Capacity Report as required by Subpart WWW, 40 C.F.R. §§ 60.752(a) and 60.757(a). At that time, the total permitted

design capacity of the landfill was 2.39 million cubic meters which was below the 2.5 million cubic meters threshold for requiring a Part 70 license.

In December 2001, PTL received permit approval for an expansion to the landfill. In January 2002, PTL submitted an Amended Design Capacity Report as required by 40 C.F.R. §§ 60.752(a)(1) and 60.757(a)(3). The total permitted design capacity of the landfill was reassessed at this time and calculated to be 3.89 million cubic meters.

Subpart WWW requires that landfills with a design capacity in excess of 2.5 million cubic meters calculate a nonmethane organic compound (NMOC) emission rate. If the calculated annual NMOC emission rate is greater than 50 megagrams per year (Mg/year), the owner of the landfill is required to install a collection and control system that complies with Subpart WWW.

PTL conducted Tier 2 sampling in November 2002 as provided for in the regulation. Based on the sampling information, the Tier 2 analysis showed an NMOC emission rate of 5.5 megagrams per year prior to control.

The landfill reached a peak uncontrolled NMOC emission rate of 23.8 Mg/year, equivalent to approximately 26.2 tpy of VOC, in 2009. The uncontrolled NMOC emission rate has steadily declined since this peak.

Since PTL's calculated NMOC emissions have never exceeded 50 Mg/year, this facility has not been required to install a collection and control system that complies with Subpart WWW. However as described above, PTL has installed and operates a collection and control system that is designed to meet the criteria set forth in Subpart WWW as BPT for the landfill.

The landfill stopped accepting waste in late 2009 and meets the definition of closed landfill in § 60.751. Therefore, PTL is no longer required to submit annual NMOC emission rate calculations and reports pursuant to § 60.752(b)(1)(ii), nor is it required to maintain a Part 70 license pursuant to § 60.752(d).

Although PTL is subject to Subpart WWW, since this facility is considered a closed landfill that was never required to install a collection and control system, the only applicable requirements for PTL in this regulation are the following recordkeeping requirements:

PTL shall keep readily accessible, on-site records of the following:

- a. The design capacity report which demonstrated that the landfill had a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters.
- b. The current amount of solid waste in-place.
- c. The historical year-by-year waste acceptance rate.

Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

[40 C.F.R. § 60.758(a)]

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

PTL is not subject to *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, 40 C.F.R. 63, Subpart AAAA.

This regulation applies to MSW landfills which are a major source of HAP, collocated with a major source of HAP, have uncontrolled NMOC emissions greater than 50 Mg/year, or includes a bioreactor. PTL is not a major source of HAP or collocated with a major HAP source, and this facility does not have uncontrolled emissions of NMOC greater than 50 Mg/year. PTL recirculates only leachate and landfill gas condensate, and therefore does not meet the definition of a landfill with a bioreactor.

3. Control Equipment

PTL operates a collection and control system consisting of a gas collection system and flare (Flare #3). The flare has a maximum heat value of 90 MMBtu/hr and is designed to achieve 98% overall destruction of total hydrocarbons including NMOC. Flare #3 also uses a small amount of propane as a pilot light.

PTL also installed a LFGTE plant with three Jenbacher Model JGS 320 engines (Engines #1, #2, and #3) which fire landfill gas (LFG). The destruction efficiency for hydrocarbons of the LFGTE plant is equivalent to the destruction efficiency of the flare. Therefore, combustion of the LFG in the LFGTE plant is considered an equivalent strategy for control of NMOC to the flare. These control devices have historically been licensed to operate individually or simultaneously to combust the collected LFG.

PTL stopped accepting waste in 2009, and the LFG flow was decreased steadily since then. Due to the declining LFG flow, operation of the LFGTE facility is no longer viable. PTL has chosen to discontinue operation of the LFGTE facility and to exclusively use Flare #3 for control of LFG.

SO₂ is emitted as a result of combustion of total reduced sulfur (TRS) compounds in the LFG. PTL has been required to operate a sulfur treatment system to maintain the concentration of the TRS compounds in the LFG to less than or equal to 1,000 ppmv and to maintain SO₂ emissions from the facility to a combined limit of 64.9 tpy. PTL primarily uses a NATCO Thiopaq[®] biological scrubber system for TRS removal. However, PTL retains the flexibility to operate other temporary or additional TRS control equipment (e.g., SulfaTreat[®]) for cases of scrubber downtime or temporary surges in LFG flow or TRS concentration, provided licensed limits are met.

The combustion devices, in conjunction with the sulfur treatment system, have previously been determined to meet BACT for all criteria pollutants. However, both the LFG flow and the concentration of TRS in the LFG have decreased over time. The raw concentration of TRS in the LFG is approaching and expected to fall below the current post-treatment limit of 1,000 ppmv in the next two to three years.

PTL conducted a new BACT analysis for control of SO₂ from the landfill based on current emission rates. Control options evaluated included the continued use of the existing Thiopaq[®] system as well as the installation of a new activated carbon absorption system. Both of these control strategies involve removing TRS compounds from the landfill gas before combustion in Flare #3 thereby reducing emissions of SO₂.

In evaluating the continued use of the existing Thiopaq[®] system, PTL did not include any capital costs and only considered operating costs (both direct and indirect) for this system. The current operating cost of the Thiopaq[®] system is more than \$230,000 per year. When the amount of SO₂ reduced by the Thiopaq[®] system is less than 23.0 tpy, the cost to operate the Thiopaq[®] system exceeds \$10,000/ton and is considered to not be economically justified. Based on data provided by PTL, the amount of actual SO₂ reduction provided by the Thiopaq[®] system on a 12-month rolling total basis fell below 23.0 tpy in early 2020. The amount of SO₂ reduction (23.0 tpy) is the difference between uncontrolled emissions and controlled emissions. The control efficiency of the Thiopaq[®] system varies with both LFG flowrate and TRS concentration. However, at a reduction rate of 23.0 tpy, uncontrolled emissions are expected to be approximately 28.0 tpy of SO₂.

PTL also considered the installation of an activated carbon system to reduce TRS in lieu of the Thiopaq[®] system. This system has a lower annual operating cost than the Thiopaq[®] system. However, there is an associated capital cost of approximately \$224,000. When the capital cost is annualized over 10 years and added to the annual operating cost, the cost of control exceeds \$10,000/ton at an emission rate similar to the Thiopaq[®] system of slightly more than 23 tpy, and therefore becomes economically infeasible at approximately the same point.

The Department has determined that continued operation of control equipment for reduction of SO₂ from the landfill is economically infeasible at control rates less than

23.0 tpy. In 2020, the amount of SO₂ controlled by the Thiopaq[®] system on a 12-month rolling total dropped below 23.0 tpy and is expected to continue to decline over time. The estimated uncontrolled emissions equivalent to 23.0 tpy of SO₂ reduction is 28.0 tpy.

Therefore, the Department finds an emission limit of 28.0 tpy (12-month rolling total) to be BACT for emissions of SO₂ from the landfill. PTL shall continuously utilize Flare #3 to control emissions for the LFG collection system except for periods of scheduled or unscheduled maintenance and repair and equipment malfunction. Periods of flare downtime due to maintenance, repair and equipment malfunction shall not exceed 438 hours per year (12-month rolling total).

4. Facility-Wide Emission Limits

Based on the closure of the LFGTE facility and the sulfur control equipment, PTL has proposed revising the facility-wide emission limits. The proposed emission limits for criteria pollutants are based on the average landfill gas flowrate for 2018 and 2019 with a safety factor of two (i.e., the average flowrate was doubled) to account for potential temporary short-term increases in flow. The landfill gas flowrate has decreased since the landfill closed and is anticipated that this trend will continue. As shown the table below, licensed emissions of all pollutants will be equivalent to or lower than the previous licensed emission limits. The proposed emission limits for hazardous air pollutants are intended to demonstrate that the facility is an area source of HAP.

Pollutant	Previous Licensed Emissions (ton/year)	Proposed Licensed Emissions (ton/year)	Change (ton/year)
PM	9.1	2.9	-6.2
PM ₁₀	9.1	2.9	-6.2
SO ₂	64.9	28.0	-36.9
NO _x	31.8	11.7	-20.1
CO	175.5	63.5	-112.0
VOC	40.4	40.4	–
Single HAP	–	9.9	–
Total HAP	–	24.9	–

The Department agrees with the proposed reduction in licensed emission limits and finds the proposed annual limits listed above to represent BACT for emissions from the landfill.

5. Compliance Demonstration

Compliance with the SO₂ annual limit shall be based on continuously monitoring the LFG flow and determining the concentration of the TRS in the LFG at least once per calendar quarter (at least 30 days between sampling dates). PTL shall determine the TRS concentration by averaging three samples collected on the same day using a test method approved by the Department.

Compliance with the PM, PM₁₀, NO_x, and CO annual limits shall be based on the amount of LFG sent to the flare and emission factors based on licensed emission limits established for Flare #3.

Compliance with the VOC annual limit shall be based on a combination of VOC emissions from Flare #3 and fugitive emissions of VOC. VOC emissions from Flare #3 shall be calculated based on the amount of LFG sent to the flare and site-specific concentration data based on sampling previously performed. Fugitive VOC emissions from the landfill shall be calculated in accordance with EPA's Compilation of Emission Factors (AP-42), Section 2.4, *Municipal Solid Waste Landfills*.

C. Flare #3

PTL operates Flare #3 to control emissions of VOC/NMOC from the landfill. It has a maximum heat input of 90 MMBtu/hr.

1. BPT Findings

The BPT emission limits for Flare #3 were based on the following:

- PM/PM₁₀ – 17 lb/MMscf of methane based on AP-42 Table 2.4-5 dated 11/98
- NO_x – 40 lb/MMscf of methane based on AP-42 Table 2.4-5 dated 11/98
- CO – 0.37 lb/MMBtu based on manufacturer specifications
- VOC – 98% destruction efficiency based on vendor-supplied data
- Visible Emissions – 06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Flare #3 are the following:

Unit	Pollutant	lb/MMBtu
Flare #3	PM	0.017

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Flare #3	1.53	1.53	3.60	33.30	11.39

2. Visible Emissions

Visible emissions from Flare #3 shall not exceed 20% opacity on a six-minute block average basis.

3. Periodic Monitoring

PTL shall record data and maintain records for the following periodic monitoring values for Flare #3.

- a. Periods of downtime on a monthly, calendar year, and 12-month rolling total basis (date and length of time); [06-096 C.M.R. chs. 115 and 137]
- b. Reason for all flare downtime; [06-096 C.M.R. ch. 115, BACT]
- c. LFG flow to Flare #3 (scf) on a monthly, calendar year, and 12-month rolling total basis; [06-096 C.M.R. chs. 115 and 137]
- d. TRS concentration of the LFG measured on a quarterly basis. [06-096 C.M.R. ch. 115, BACT]

D. Fugitive Emissions

Visible emissions from any fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.

E. VOC RACT

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 C.M.R. ch. 134 (VOC RACT) is not applicable to PTL because potential emissions from non-exempt equipment and processes do not exceed 40 tons/year.

F. Emissions Statement

PTL is subject to emissions inventory requirements contained in *Emission Statements*, 06-096 C.M.R. ch. 137. PTL shall maintain the following records in order to comply with this rule:

1. Hours Flare #3 is operating or active on a monthly and calendar year basis;
2. LFG flow to Flare #3 (scf) on a monthly and calendar year basis;
3. Site-specific sampling data on the NMOC concentration of the LFG; and
4. TRS concentration of the LFG measured on a quarterly basis.

In reporting year 2020 and every third year thereafter, PTL shall report to the Department emissions of hazardous air pollutants as required by 06-096 C.M.R. ch. 137, § (3)(C). The Department will use these reports to calculate and invoice for the applicable annual air

quality surcharge for the subsequent three billing periods. PTL shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3).
[38 M.R.S. § 353-A(1-A)]

G. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee. Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included. Maximum potential emissions are based on the facility-wide emission limit for each pollutant.

Please note, this information provides the basis for fee calculation only and should not be construed to represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Facility-Wide Total	2.9	2.9	28.0	11.7	63.5	40.4

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

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

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

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

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-850-71-E-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof 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. § 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. 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 C.F.R. 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 C.M.R. ch. 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 the written test report by the Department, or another alternative timeframe approved by the Department, 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 C.F.R. 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 C.M.R. ch. 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 license requirement. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 115]
- (16) The licensee 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. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

This license is intended to concatenate all currently applicable NSR requirements into one location. No changes to requirements are intended except where specifically addressed in the Findings of Fact (e.g., removal of the LFGTE Engines and sulfur control equipment).

Therefore, the following Conditions replace all previous Conditions in NSR licenses and amendments issued to the facility. This license becomes the base condition for future licensing actions.

(17) **Solid Waste Landfill**

A. PTL shall keep readily accessible, on-site records of the following:

1. The design capacity report which demonstrated that the landfill had a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters.
2. The current amount of solid waste in-place.
3. The historical year-by-year waste acceptance rate.

Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.
[40 C.F.R. § 60.758(a)]

B. PTL shall operate and maintain a landfill gas collection and control system, including Flare #3. [06-096 C.M.R. ch. 115, BPT]

C. Visible emissions from any fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.
[06-096 C.M.R. ch. 101, § 3(C)]

(18) **Facility-Wide Emission Limits**

- A. PTL shall not exceed the following emission limits on a 12-month rolling total basis:
[06-096 C.M.R. ch. 115, BACT]

Pollutant	(ton/year)
PM	2.9
PM ₁₀	2.9
SO ₂	28.0
NO _x	11.7
CO	63.5
VOC	40.4
Single HAP	9.9
Total HAP	2.9

- B. Compliance with the facility-wide emission limits for criteria pollutants 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, BACT]
- C. Compliance with the facility-wide HAP emission limits 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, BACT]
- D. PTL shall maintain records necessary to calculate annual emissions for any consecutive 12-month period and shall provide a demonstration of compliance with the facility-wide emission limits for any consecutive 12-month period upon request by the Department. [06-096 C.M.R. ch. 115, BACT]
- E. To demonstrate compliance with the SO₂ annual limit, PTL shall continuously monitor the LFG flow and determine the concentration of the TRS in the LFG at least once per calendar quarter (at least 30 days between sampling dates). PTL shall determine the TRS concentration by averaging three samples collected on the same day using a test method approved by the Department. [06-096 C.M.R. ch. 115, BACT]
- F. To demonstrate compliance with the PM, PM₁₀, NO_x, and CO annual limits, PTL shall calculate annual emissions based on the amount of LFG sent to the flare and the following emission factors derived from the licensed emission limits established for Flare #3. [06-096 C.M.R. ch. 115, BACT]

Emission Factor	PM	PM₁₀	NO_x	CO
lb/MMBtu	0.017	0.017	0.040	0.370

G. To demonstrate compliance with the VOC annual limit, PTL shall calculate annual emissions based on a combination of VOC emissions from Flare #3 and fugitive emissions of VOC. VOC emissions from Flare #3 shall be calculated based on the amount of LFG sent to the flare and site-specific concentration data based on sampling previously performed. Fugitive VOC emissions from the landfill shall be calculated in accordance with EPA's Compilation of Emission Factors (AP-42), Section 2.4, *Municipal Solid Waste Landfills*. [06-096 C.M.R. ch. 115, BACT]

(19) Flare #3

A. PTL shall continuously utilize Flare #3 to control emissions for the LFG collection system except for periods of scheduled or unscheduled maintenance and repair and equipment malfunction. Periods of flare downtime due to maintenance, repair, and equipment malfunction shall not exceed 438 hours per year (12-month rolling total). [06-096 C.M.R. ch. 115, BACT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Flare #3	PM	0.017	06-096 C.M.R. ch. 115, BPT

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

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Flare #3	1.53	1.53	3.60	33.30	11.39

D. Visible emissions from Flare #3 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

E. PTL shall record data and maintain records for the following periodic monitoring values for Flare #3.

1. Periods of downtime on a monthly, calendar year, and 12-month rolling total basis (date and length of time); [06-096 C.M.R. chs. 115 and 137]
2. Reason for all flare downtime; [06-096 C.M.R. ch. 115, BACT]
3. LFG flow to Flare #3 (scf) on a monthly, calendar year, and 12-month rolling total basis; [06-096 C.M.R. chs. 115 and 137]
4. TRS concentration of the LFG measured on a quarterly basis. [06-096 C.M.R. ch. 115, BACT]

New England Waste Services of ME, Inc.
d/b/a Pine Tree Landfill
Penobscot County
Hampden, Maine
A-850-71-E-R/A

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**Departmental
Findings of Fact and Order
Air Emission License
Renewal with Amendment**

(20) **Annual Emission Statement**

- A. In accordance with *Emission Statements*, 06-096 C.M.R. ch. 137, PTL shall annually report to the Department, in a format prescribed by the Department, the information necessary to accurately update the State's emission inventory. The emission statement shall be submitted as specified by the date in 06-096 C.M.R. ch. 137.
- B. PTL shall keep the following records in order to comply with 06-096 C.M.R. ch. 137:
1. Hours Flare #3 is operating or active on a monthly and calendar year basis;
 2. LFG flow to Flare #3 (scf) on a monthly and calendar year basis;
 3. Site-specific sampling data on the NMOC concentration of the LFG; and
 4. TRS concentration of the LFG measured on a quarterly basis.
- [06-096 C.M.R. ch. 137]
- C. In reporting year 2020 and every third year thereafter, PTL shall report to the Department emissions of hazardous air pollutants as required by 06-096 C.M.R. ch. 137, § (3)(C). PTL shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3). [38 M.R.S. § 353-A(1-A)]

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF JANUARY, 2021.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
MELANIE LOYZIM, ACTING COMMISSIONER

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

[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: 12/15/17 (renewal), 8/21/20 (amendment)

Date of application acceptance: 12/15/17 (renewal), 8/24/20 (amendment)

Date filed with the Board of Environmental Protection:

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

