



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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COMMISSIONER

New England Waste Services of ME, Inc.
d/b/a Pine Tree Landfill
Penobscot County
Hampden, Maine
A-850-77-7-A

Departmental
Findings of Fact and Order
New Source Review
Amendment

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

| | |
|-----------------------------|--|
| FACILITY | New England Waste Services of ME, Inc. d/b/a Pine Tree Landfill (PTL) |
| PART 70 LICENSE NUMBER | A-850-70-A-I |
| LICENSE TYPE | Chapter 115 Minor Modification |
| NAICS CODES | 562212 |
| NATURE OF BUSINESS | Solid Waste Landfill |
| FACILITY LOCATION | Hampden, Maine |
| NSR AMENDMENT ISSUANCE DATE | February 18, 2011 |

B. Amendment Description

Pine Tree Landfill (PTL) is a closed, secure special waste landfill that accepted a variety of solid wastes. PTL consists of a conventional landfill unit and the Secure I, Secure II, and Secure III landfill units. Various sections of the landfill are equipped with an active gas extraction system designed for the collection and destruction (through combustion) of landfill gas for the purpose of voluntarily reducing emissions of greenhouse gases and, as an additional benefit, minimizing odor. The primary combustion device is a landfill gas-to-energy (LFGTE) facility with three Jenbacher (JGS 320) engines, and a 90 MMBtu/hr utility flare available to combust gas if the collection rate exceeds the combustion capacity of the LFGTE facility (e.g., during maintenance operations at the LFGTE facility).

PTL has proposed a leachate recirculation project for the PTL which is expected to have a range of environmental benefits, such as an increased rate of waste stabilization, increased electricity production at the LFGTE facility, and reduced off-site leachate treatment. PTL proposes to modify the sulfur dioxide emission

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limit to address air emissions associated with sulfur removal system bypass events and air emissions associated with the proposed leachate recirculation project along with a Best Available Control Technology analysis for control of SO₂ emissions from the facility's LFG combustion devices.

C. Application Classification

The application for PTL does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping. This 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 modification based on whether or not expected emission increases exceed the "Significant Emission Increase Levels" as defined in the Department's regulations.

The emission increases are determined by subtracting the average actual emissions of the two calendar years preceding the modification from the maximum future license allowed emissions, as follows:

| Pollutant | Current Licensed Allowed (TPY) | 2008/2009 Ave. Actual (TPY) | Future License (TPY) | Net Change (TPY) | Sig. Level |
|------------------|--------------------------------|-----------------------------|----------------------|------------------|------------|
| PM | 9.1 | 1.2 | 9.1 | 7.9 | 25 |
| PM ₁₀ | 9.1 | 1.2 | 9.1 | 7.9 | 15 |
| SO ₂ | 25.0 | 25.0 | 64.9 | 39.9 | 40 |
| NO _x | 31.8 | 19.7 | 31.8 | 12.1 | 40 |
| CO | 175.5 | 86.1 | 175.5 | 89.4 | 100 |
| VOC | 41.4 | 0.5 | 40.4 | 39.9 | 40 |

Therefore, this modification is determined to be a minor modification and has been processed as such.

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 06-096 CMR 100 (as amended) of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Department's regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Background

PTL has requested a minor modification to their license to address the proposed leachate recirculation project which is expected to increase electrical production from the three landfill gas to energy engines along with having environmental benefits including greater waste stabilization and reduced off-site leachate treatment. The leachate recirculation project is designed to deliver moisture to the waste to increase the rate of waste degradation and increase the LFG generation rate such that a sufficient volume of LFG (i.e., approximately 1,077 scfm) is delivered to meet the engines' heat input requirements to operate at full capacity. Based on pilot testing at the site, leachate recirculation has the potential to increase the LFG collection rate and/or maintain a LFG collection rate in the range of 1,000 scfm for longer than would be possible without the addition of moisture to the waste. Pilot testing also indicates that leachate recirculation will initially increase the concentration of total reduced sulfur (TRS) compounds in the LFG followed by a decreasing trend thereafter.

TRS compounds generate SO₂ when combusted, and because of the expected increase in SO₂ emissions resulting from leachate recirculation, PTL has requested this amendment to update BACT and prepared a modeling analysis to show compliance with Maine Ambient Quality Standards, and the new Federal one-hour SO₂ ambient air quality standard, as describe in Section III. PTL's current air license provides 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 that licensed limits are met. PTL's current gas control system includes:

- LFG combustion devices:
 - A landfill gas-to-energy (LFGTE) facility with three Jenbacher Model JGS 320 engines; and
 - A utility flare; and
- A NATCO Thiopaq[®] sulfur treatment system to remove total reduced sulfur (TRS) compounds from the LFG prior to combustion; and
- A backup dual-compartment SulfaTreat dry scrubbing system.

The LFGTE facility is the primary combustion device in the control system and the flare is the backup or auxiliary combustion device. The control devices may

operate individually or simultaneously to combust the collected LFG. The combustion devices have previously been determined to meet BACT by the Maine Department of Environmental Protection (Maine DEP) for Carbon monoxide (CO), Nitrogen oxides (NO_x), Particulate matter (PM), and Volatile organic compounds (VOC). PTL is not proposing any change to these BACT limits. The leachate recirculation project does not involve modification of the LFG combustion devices. Therefore, BACT is not triggered for these units. A new BACT determination is necessary only for SO₂ due to PTL's proposal to change the current BACT limit.

C. SO₂ BACT

Maine DEP determined through Air Emissions License Amendment, A-850-77-3-A issued October 7, 2007, that BACT for SO₂ from the LFGTE system at PTL was operation of the sulfur treatment system prior to combustion of the LFG with a TRS scrubbing efficiency of 85 percent, or to a level of 200 parts per million by volume (ppmv), whichever is less stringent, and lower if necessary to maintain SO₂ emissions from the engines to a limit of 25 tons per year (tpy).

An updated BACT analysis accompanied this minor modification request with actual operational cost data that was not available at the time that the existing operating limits were established for the sulfur treatment system. Furthermore, PTL proposed new operating limits to address air emissions of SO₂ associated with events during which LFG bypasses the sulfur treatment system (i.e., during maintenance operations on the sulfur treatment system). Also, PTL's proposed leachate recirculation program which is anticipated to affect LFG and TRS generation at the facility was also considered during the development of the proposed emission limits.

Several BACT operating scenarios were studied and are included in PTL's air license application dated September 2010. Based on capital and operating costs, BACT for SO₂ emissions, with the proposed leachate recirculation project included, requires the TRS concentration to be reduced to a level no greater than 1,000 ppmv for delivery to the LFGTE facility, or lower in order to maintain total SO₂ emissions (from the engines and flares) to less than 64.9 tpy on a 12-month rolling total basis.

D. Sulfur Dioxide Emission Rates

Sulfur dioxide (SO₂) is emitted as a result of combustion of sulfur-containing compounds (herein referred to as total reduced sulfur (TRS) compounds) in LFG. The proposed leachate recirculation program at the PTL is expected to initially

increase the concentration of TRS compounds in LFG followed by a gradual decline over time. To limit the impact of SO₂ on ambient air quality, PTL will continue to operate the existing sulfur treatment system to maintain the concentration of TRS compounds in LFG delivered to the LFGTE facility to less than or equal to 1,000 parts per million by volume (ppmv).

PTL is proposing to operate the sulfur treatment system to reduce TRS concentrations to a level of 1,000 ppmv for each engine, or lower if necessary to maintain SO₂ emissions to a combined limit of 64.9 tons per year. For periods when the sulfur treatment system and the LFGTE facility are inoperative, PTL modeled SO₂ emissions from the flare based on an uncontrolled TRS concentration of 10,000 ppmv. Ambient Air Quality Modeling (as described in Section III) is based on the rated flow rate capacity of the landfill gas collection and control system rather than the actual expected flow rate of LFG, so the modeled SO₂ emission rates are conservatively higher than the proposed SO₂ emission limit.

E. Compliance Determination Monitoring

SO₂ Emission Limit

PTL will meet BACT limits for SO₂ emissions from the engines and/or flare to not exceed 64.9 tons per year on a 12-month rolling basis (including periods of normal scrubber operation and scrubber bypass). As described below, PTL will demonstrate compliance with this emission limit based on TRS laboratory analysis of twice-per-month sampling events in which, for each sampling event, three gas samples are collected from the scrubber inlet and three gas samples collected from the scrubber outlet. Each sampling event is to be conducted on a single day at least seven days after the previous sampling event. Although PTL operates a sulfur removal process, 06-096 CMR 106 is not applicable to Pine Tree Landfill.

Compliance Demonstration – Annual 64.9 Tons/Year SO₂ Emission Limit

(i) Periods of Normal Scrubber Operation

- For periods of normal scrubber operation, the average of the TRS concentrations measured at the scrubber outlet during the twice per month sampling events shall determine the average outlet TRS concentration for that month;
- The average LFG flow rate measured on the twice per month TRS sampling dates shall determine the LFG flow rate for that month; and

- The monthly SO₂ emission rate for periods of normal scrubber operation shall be calculated based on the average TRS outlet concentration and the average LFG flow rate (as defined in the two previous bullet items), and the recorded duration of normal scrubber operation for the month.
- (ii) **Periods of Scrubber Bypass**
- For periods of scrubber bypass, the average of the TRS concentrations measured at the scrubber inlet during the twice per month sampling events shall determine the average inlet TRS concentration for that month;
 - The LFG flow measured during scrubber bypass shall determine the LFG flow rate for that month; and
 - The monthly SO₂ emission rate for periods of scrubber bypass shall be calculated based on the average TRS inlet concentration and the average LFG flow rate (as defined in the two previous bullet items).

The sum of the monthly SO₂ emissions calculated (i) for periods of normal scrubber operation and (ii) for periods of scrubber bypass shall determine the facility's total monthly SO₂ emissions. The 12-month rolling total SO₂ emissions shall be compared to the tons-per-year emission limit to assess compliance. The average of the results for the samples collected at each location, in conjunction with the average hourly total gas flow rate that day, will be used to determine the lbs/hour of SO₂ emissions from the engines and flare and the ppm of SO₂ in the gas stream before and after control.

Periodic monitoring of the TRS control equipment includes H₂S concentrations before and after the equipment. PTL will continue to operate an H₂S analyzer and/or the colorimetric tubes to provide sufficient information for use as operational tools, but are not sufficiently accurate for compliance determinations. Therefore, PTL will continue to monitor H₂S concentrations twice per day at the scrubber inlet and outlet with an H₂S analyzer or colorimetric tubes, and shall use the results to assess whether LFG is to be directed to the engines, or only to the flare.

If monthly laboratory testing of TRS demonstrates that the concentration at the inlet to the scrubber (i.e., untreated TRS concentration) has remained less than 1,000 ppmv for greater than 12 continuous months, PTL may submit a request to the Department to discontinue scrubbing.

F. Incorporation into the Part 70 Air Emission License

The requirements in this 06-096 CMR 115 New Source Review amendment shall apply to the facility upon amendment issuance. Per Part 70 Air Emission License

Regulations, 06-096 CMR 140 (as amended), Section 2(J)(2)(d), for a modification that has undergone NSR requirements or been processed through 06-096 CMR 115, the source must then apply for an amendment to the Part 70 license within one year of commencing the proposed operations as provided in 40 CFR Part 70.5.

G. Annual Emissions

PTL shall be restricted to the following annual emissions from the gas to energy engines and flare, based on a 12 month rolling total:

Total Licensed Annual Emission for the Facility
Tons/year
(used to calculate the annual license fee)

| | PM | PM ₁₀ | SO ₂ | NO _x | CO | VOC |
|-------------------|------------|------------------|-----------------|-----------------|--------------|-------------|
| Engines and Flare | 9.1 | 9.1 | 64.9 | 31.8 | 175.5 | 40.4 |
| Total TPY | 9.1 | 9.1 | 64.9 | 31.8 | 175.5 | 40.4 |

III. AMBIENT AIR QUALITY ANALYSIS

A. Overview

A refined modeling analysis was performed to show that emissions from PTL, in conjunction with other sources, will not cause or contribute to violations of Maine and National Ambient Air Quality Standards (MAAQS, NAAQS) for SO₂, PM₁₀, NO₂ or CO or to Class II increments for SO₂, PM₁₀ or NO₂.

Since the current licensing action for PTL represents a minor modification to an existing major source, it has been determined by MEDEP-BAQ that an assessment of Class I Air Quality Related Values (AQRVs) is not required.

B. Model Inputs

The AERMOD-PRIME refined model was used to address standards and increments in all areas. The modeling analysis accounted for the potential of building wake and cavity effects on emissions from all modeled stacks that are below their calculated formula GEP stack heights.

All modeling was performed in accordance with all applicable requirements of the Maine Department of Environmental Protection, Bureau of Air Quality (MEDEP-BAQ) and the United States Environmental Protection Agency (USEPA).

A valid 5-year hourly off-site meteorological database was used in the AERMOD-PRIME refined modeling analysis. Wind data was collected at a height of 10 meters at the Bangor National Weather Service (NWS) meteorological monitoring site during the 5-year period 2000-2004. All missing data were interpolated or coded as missing, per EPA guidance. Hourly cloud cover and ceiling height data, collected at the Caribou NWS site, were used to determine stability.

The surface meteorological data was combined with concurrent hourly cloud cover and upper-air data obtained from the Caribou National Weather Service (NWS). Missing cloud cover and/or upper-air data values were interpolated or coded as missing, per EPA guidance.

All necessary representative micrometeorological surface variables for inclusion into AERMET (surface roughness, Bowen ratio and albedo) were calculated using AERSURFACE from procedures recommended by USEPA.

Point-source parameters, used in the modeling for PTL are listed in Table III-1.

TABLE III-1 : Point Source Stack Parameters

| Facility/Stack | Stack Base Elevation (m) | Stack Height (m) | GEP Stack Height (m) | Stack Diameter (m) | UTM Easting NAD27 (km) | UTM Northing NAD27 (km) |
|--|--------------------------|------------------|----------------------|--------------------|------------------------|-------------------------|
| CURRENT/PROPOSED | | | | | | |
| IV. Pine Tree Landfill | | | | | | |
| • Stack #1 | 43.28 | 17.07 | 19.05 | 0.36 | 510.922 | 4957.062 |
| • Stack #2 | 43.28 | 17.07 | 19.05 | 0.36 | 510.922 | 4957.058 |
| • Stack #3 | 43.28 | 17.07 | 19.05 | 0.36 | 510.921 | 4957.054 |
| • Flare | 42.67 | 19.36* | 19.66 | 0.30 | 510.925 | 4957.009 |
| 1987 BASELINE | | | | | | |
| Pine Tree Landfill | | | | | | |
| PTL had no emissions sources in the 1987 baseline year, no credit to be taken. | | | | | | |
| 1977 BASELINE | | | | | | |
| Pine Tree Landfill | | | | | | |
| PTL had no emissions sources in the 1977 baseline year, no credit to be taken. | | | | | | |

* = Effective release height, calculated per USEPA guidance

Emission parameters for MAAQS, NAAQS and increment modeling are listed in Table III-2. The emission parameters for PTL are based on the maximum license allowed (worst-case) operating configuration, which accounts for the operation of three electrical generating engines and the flare. For the purposes of determining PM₁₀ and NO₂ impacts, all PM and NO_x emissions were conservatively assumed to convert to PM₁₀ and NO₂, respectively.

TABLE III-2 : Stack Emission Parameters

| Facility/Stack | Averaging Periods | SO ₂ (g/s) | PM ₁₀ (g/s) | NO ₂ (g/s) | CO (g/s) | Stack Temp (K) | Stack Velocity (m/s) |
|--|-------------------|-----------------------|------------------------|-----------------------|----------|----------------|----------------------|
| MAXIMUM LICENSE ALLOWED | | | | | | | |
| Pine Tree Landfill | | | | | | | |
| • Stack #1 | All | 0.44 | 0.06 | 0.24 | 1.12 | 785.37 | 14.30 |
| • Stack #2 | All | 0.44 | 0.06 | 0.24 | 1.12 | 785.37 | 14.30 |
| • Stack #3 | All | 0.44 | 0.06 | 0.24 | 1.12 | 785.37 | 14.30 |
| • Flare | All | 2.37 | 0.12 | 0.29 | 2.69 | 1273.15 | 20.00 |
| BASELINE - 1987 | | | | | | | |
| Pine Tree Landfill | | | | | | | |
| PTL had no emissions sources in the 1987 baseline year, no credit to be taken. | | | | | | | |
| BASELINE - 1977 | | | | | | | |
| Pine Tree Landfill | | | | | | | |
| PTL had no emissions sources in the 1977 baseline year, no credit to be taken. | | | | | | | |

C. Single Source Modeling Impacts

AERMOD-PRIME refined modeling, using 5 years of sequential meteorological data, was performed for the worst-case operating scenario, which accounts for the simultaneous operation of all three electrical generating engines and the flare.

The modeling results for PTL alone are shown in Tables III-3. Maximum predicted impacts that exceed their respective significance level are indicated in boldface type. No further modeling was required for pollutant/terrain combinations that did not exceed their respective significance levels.

TABLE III-3 : Maximum AERMOD-PRIME Impacts from PTL Alone

| Pollutant | Averaging Period | Max Impact (µg/m ³) | Receptor UTM E (km) | Receptor UTM N (km) | Receptor Elevation (m) | Class II Significance Level (µg/m ³) |
|-----------------|------------------|---------------------------------|---------------------|---------------------|------------------------|--|
| SO ₂ | 1-hour | 279.75¹ | - | - | - | 10² |
| | 3-hour | 135.93 | 511.020 | 4956.980 | 41.45 | 25 |
| | 24-hour | 81.93 | 511.000 | 4956.990 | 41.45 | 5 |
| | Annual | 11.18 | 511.020 | 4956.980 | 41.45 | 1 |

| | | | | | | |
|------------------|---------|---------------------------|---------|----------|-------|-----------------------|
| PM ₁₀ | 24-hour | 11.17 | 511.000 | 4956.990 | 41.45 | 5 |
| | Annual | 1.52 | 511.020 | 4956.980 | 41.45 | 1 |
| NO ₂ | 1-hour | 101.01¹ | - | - | - | 10³ |
| | Annual | 6.09 | 511.020 | 4956.980 | 41.45 | 1 |
| CO | 1-hour | 470.88 | 510.614 | 4956.978 | 77.51 | 2000 |
| | 8-hour | 275.42 | 511.020 | 4956.970 | 41.45 | 500 |

¹ Value based on the average of H1H (high-1st-high) concentrations for each of the five years of meteorological data, regardless of receptor location, per NESCAUM guidance.

² Interim Significant Impact Level (SIL) adopted by Maine

³ Interim Significant Impact Level (SIL) adopted by NESCAUM states

D. Combined Source Modeling Impacts

For predicted modeled impacts from PTL alone that exceeded significance levels, as indicated in boldface type in Table III-3, other sources not explicitly included in the modeling analysis must be accounted for by using representative background concentrations for the area.

Background concentrations, listed in Table III-4, are derived from representative rural background data for use in the Eastern Maine region.

TABLE III-4 : Background Concentrations

| Pollutant | Averaging Period | Background Concentration (µg/m ³) |
|------------------|----------------------|---|
| SO ₂ | 1-hour ¹ | 47 ¹ |
| | 3-hour ² | 18 ² |
| | 24-hour ² | 11 ² |
| | Annual ² | 1 ² |
| PM ₁₀ | 24-hour ³ | 42 ³ |
| | Annual ³ | 10 ³ |
| NO ₂ | 1-hour ⁴ | 47 ⁴ |
| | Annual ⁴ | 3 ⁴ |

Notes:

¹ Village Green Site - Rumford

² MacFarland Hill Site - Acadia National Park

³ Background site - Baileyville

⁴ MicMac Site - Presque Isle

MEDEP examined other area sources whose impacts would be significant in or near PTL's significant impact area. Due to the applicant's location, extent of the significant impact area and nearby source's emissions, MEDEP has determined that no other sources would be considered for combined source modeling.

For pollutant averaging periods that exceeded significance levels, the maximum modeled impacts for all sources were added with conservative rural background concentrations to demonstrate compliance with MAAQS and NAAQS, as shown in

Table III-5. Because impacts for all pollutants using this method meet MAAQS and NAAQS, no further modeling analyses need to be performed.

TABLE III-5 : Maximum Combined Source Impacts

| Pollutant | Averaging Period | Max Impact ($\mu\text{g}/\text{m}^3$) | Receptor UTM E (km) | Receptor UTM N (km) | Receptor Elevation (m) | Back-Ground ($\mu\text{g}/\text{m}^3$) | Max Total Impact ($\mu\text{g}/\text{m}^3$) | MAAQS/NAAQS ($\mu\text{g}/\text{m}^3$) |
|------------------|------------------|---|---------------------|---------------------|------------------------|--|---|--|
| SO ₂ | 1-hour | 146.73 | - | - | - | 47 | 193.73 | 196 |
| | 3-hour | 135.93 | 511.020 | 4956.980 | 41.45 | 18 | 153.93 | 1150 |
| | 24-hour | 81.93 | 511.000 | 4956.990 | 41.45 | 11 | 92.93 | 230 |
| | Annual | 11.18 | 511.020 | 4956.980 | 41.45 | 1 | 12.18 | 57 |
| PM ₁₀ | 24-hour | 11.17 | 511.000 | 4956.990 | 41.45 | 42 | 53.17 | 150 |
| | Annual | 1.52 | 511.020 | 4956.980 | 41.45 | 10 | 11.52 | 40 |
| NO ₂ | 1-hour | 78.42 | - | - | - | 47 | 125.42 | 188 |
| | Annual | 6.09 | 511.020 | 4956.980 | 41.45 | 3 | 9.09 | 100 |

E. Increment

The AERMOD-PRIME refined model was used to predict PTL's maximum Class II increment impacts in all areas.

Results of the single-source Class II increment analysis are shown in Tables III-6. All modeled maximum increment impacts were below all increment standards. Because all predicted increment impacts meet increment standards, no further Class II SO₂, PM₁₀ and NO₂ increment modeling for PTL needed to be performed.

TABLE IV-6 : Class II Increment Consumption

| Pollutant | Averaging Period | Max Impact ($\mu\text{g}/\text{m}^3$) | Receptor UTM E (km) | Receptor UTM N (km) | Receptor Elevation (m) | Class II Increment ($\mu\text{g}/\text{m}^3$) |
|------------------|------------------|---|---------------------|---------------------|------------------------|---|
| SO ₂ | 3-hour | 135.93 | 511.020 | 4956.980 | 41.45 | 512 |
| | 24-hour | 81.93 | 511.000 | 4956.990 | 41.45 | 91 |
| | Annual | 11.18 | 511.020 | 4956.980 | 41.45 | 20 |
| PM ₁₀ | 24-hour | 11.17 | 511.000 | 4956.990 | 41.45 | 30 |
| | Annual | 1.52 | 511.020 | 4956.980 | 41.45 | 17 |
| NO ₂ | Annual | 6.09 | 511.020 | 4956.980 | 41.45 | 25 |

Federal guidance and 06-096 CMR 115 require that any major new source or major source undergoing a major modification provide additional analyses of impacts that would occur as a direct result of the general, commercial, residential, industrial and mobile-source growth associated with the construction and operation of that source. Since this licensing action represents a minor modification to an existing major source, no additional analyses were required.

F. Class I Impacts

Since the current licensing action for PTL represents a minor modification to an existing major source, it has been determined by MEDEP-BAQ that an assessment of Class I Air Quality Related Values (AQRVs) is not required.

G. Summary

In summary, it has been demonstrated that PTL in its proposed configuration will not cause or contribute to a violation of any MAAQS or NAAQS for SO₂, PM₁₀, NO₂ or CO; or any SO₂, PM₁₀ or NO₂ averaging period Class II increment standards.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-850-77-7-A pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

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

- (1) PTL may develop the proposed leachate recirculation project, which is expected to increase electrical production from the three landfill gas to energy engines and provide greater waste stabilization and reduced off-site leachate treatment.
- (2) **The following shall replace Condition (5) of New Source Review Amendment A-850-77-3-A:**
 - (5) PTL shall not exceed the following emission limits on a 12 month rolling total basis [06-096 CMR 115, BACT]:

| Pollutant | Ton/year |
|------------------|----------|
| PM | 9.1 |
| PM ₁₀ | 9.1 |
| SO ₂ | 64.9 |
| NO _x | 31.8 |
| CO | 175.5 |
| VOC | 40.4 |

(3) The following shall replace Condition (6) of New Source Review Amendment A-850-77-3-A:

(6) SO₂ Emissions

- A. SO₂ emissions from Flare #3 and the Landfill Gas-Fired Engines combined shall not exceed 64.9 tons per year on a 12-month rolling basis (including periods of normal scrubber operation and scrubber bypass). On a short term basis, combined SO₂ emissions from the engines shall not exceed 10.5 lb/hr except for periods of maintenance and unavoidable malfunction (as described in 38 M.R.S.A. §349.9) of the TRS control equipment.
[06-096 CMR 115, BACT]
- B. PTL shall install and operate TRS control equipment as necessary on the landfill gas to achieve (on a 12-month rolling average basis) an outlet concentration of 1000 ppm and to control emissions of SO₂ to the emission limits in Condition (6)(A). Any change in the type or configuration of the TRS control equipment used must be submitted to the Department prior to use. Compliance testing of any alternative control equipment shall be performed within 60 days of beginning operation. If alternative control equipment is used, PTL shall notify the compliance inspector at least 7 days prior to any TRS compliance testing. [06-096 CMR 115, BACT]
- C. Compliance with the SO₂ lb/hr limit and the TRS control equipment efficiency requirement shall be based on sampling of the landfill gas entering and exiting the TRS control equipment three times on one day twice per month (i.e, three samples at the inlet to the scrubber and three samples at the scrubber outlet) using a test method approved by the Department. PTL shall record the gas flow rate on the days of sampling. There shall be no fewer than seven days between sampling events (unless laboratory scheduling issues or problems with sampling occurs that require a different frequency to accomplish two sampling events in one month). The average of the six inlet samples and six outlet samples shall determine

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the result for that month. It will be assumed that all remaining sulfur in the landfill gas is converted to SO₂ and emissions calculated accordingly. Compliance with the SO₂ lb/hr limit and the control efficiency requirement or alternative ppm limit shall be based on a 12-month rolling average. [06-096 CMR 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 18th DAY OF FEBRUARY, 2011.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
DARRYL N. BROWN, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 17, 2010

Date of application acceptance: October 1, 2010

Date filed with the Board of Environmental Protection:

This Order prepared by Ed Cousins, Bureau of Air Quality

