



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**State of Maine and
NEWSME Landfill Operations, LLC
d/b/a Juniper Ridge Landfill
Penobscot County
Old Town, Maine
A-921-77-4-M**

**Departmental
Findings of Fact and Order
New Source Review
NSR #3**

FINDINGS OF FACT

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 Maine Revised Statutes Annotated (M.R.S.A.), Section 344 and Section 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

FACILITY	State of Maine and NEWSME Landfill Operations, LLC d/b/a Juniper Ridge Landfill (JRL)
LICENSE TYPE	06-096 CMR 115, Minor Revision
NAICS CODES	562212
NATURE OF BUSINESS	Solid Waste Landfill
FACILITY LOCATION	Old Town, Maine

Juniper Ridge Landfill (JRL) is a solid waste disposal facility currently owned by the State of Maine (Bureau of General Services) and operated by NEWSME Landfill Operations, LLC.

A. Amendment Description

The Department issued new source review (NSR) amendments A-921-77-2-A and A-921-77-3-M to JRL on November 26, 2012 and February 7, 2014 respectively. Both NSR amendments address monitoring and sampling of landfill gas (LFG) for total reduced sulfur (TRS) and hydrogen sulfide (H₂S) compounds. This amendment corrects discrepancies between these two licenses.

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B. Application Classification

The application submitted by JRL does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping.

The proposed revision will not change the facility's emission limits. Therefore, the amendment is determined to be a minor revision under *Minor and Major Source Air Emission License Regulations* 06-096 Code of Maine Rules (CMR) 115 (as amended). The procedures found in 06-096 CMR 115 (as amended) can be utilized to process this application because the proposed revision not prohibited by the Part 70 air emission license. This minor revision shall be incorporated into the Part 70 air emission license renewal currently in process.

C. Revision Details

NSR amendment A-921-77-2-A established an SO₂ ton per year (tpy) limit for the facility's flares, a sampling procedure and schedule for TRS in the LFG, and phased requirements for the proposal of sulfur controls.

NSR amendment A-921-77-3-M addressed the licensing of the proposed control equipment including monitoring requirements.

Some conditions in these amendments conflict, are repetitive, or don't clearly reflect the time frames they are effective for. The changes listed in the Order section of this document are intended to correct these discrepancies.

ORDER

The Department hereby grants Air Emission License Minor Revision A-921-77-4-M 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.

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SPECIFIC CONDITIONS

Conditions (3)(C)(2), (4)(A), and (4)(C) of Air Emission License A-921-77-2-A and Condition (1) of Air Emission License A-921-77-3-M are Deleted and replaced by the following:

(1) Control Technology Requirements

A. The following requirements are in effect until June 1, 2015:

1. JRL shall flare the collected gases. Flare #4 shall be used as the primary control unit, with Flares #2 and #3 as backup. Backup is defined for the purpose of this license as each of the Flares #2 and #3 operating no more than 100 hours per calendar year. [06-096 CMR 115, BACT]
2. Hydrogen Sulfide (H₂S)
 - a. H₂S concentration in the landfill gas going to the flares shall not exceed 4,500 ppmv on a daily average basis as demonstrated by the procedures in Condition (1)(A)(2)(b). [06-096 CMR 115, BACT]
 - b. JRL shall sample the landfill gas H₂S concentration twice in the same day (morning and afternoon, with at least 4 hours between the two sample times) using colorimetric tubes and average the samples for that day. This sampling method shall occur at least two times per week, with at least three days between samples. If a daily average H₂S concentration of 4,250 ppmv or more is measured, then JRL shall sample H₂S concentrations twice daily until the average daily measured concentration is less than 4,000 ppmv for seven (7) consecutive days. Records shall be maintained on site documenting the H₂S measurements. [06-096 CMR 115, BACT]
3. Juniper Ridge Landfill shall sample the TRS content of the landfill gas to be flared three times during a single day once per month using a test method approved by the Department (such as laboratory analysis with ASTM Method D-5504) and record the gas flow rate rates at the times the samples are taken. The average of the sampling results for each month, along with the associated gas flow rates, shall be used to estimate the monthly SO₂ emissions and determine compliance with the ton per year (tpy) emission limit (on a 12-month rolling total basis) based on the assumption that TRS compounds are converted to SO₂ during combustion. Records shall be kept on a monthly and 12 month rolling total basis. [06-096 CMR 115, BACT]

B. The following requirements are in effect on and after June 1, 2015:

1. JRL shall install and operate the Thiopaq system no later than June 1, 2015. [06-096 CMR 115, BACT]
2. JRL shall install and operate pollution control equipment as necessary on the landfill gas to achieve (on a 12-month rolling average basis) an outlet TRS concentration of 1,000 ppmv or less and to control emissions of SO₂ so as to be in compliance with the facility's SO₂ tpy limit. JRL may utilize alternative control equipment in conjunction with the Thiopaq system as necessary to meet the TRS and SO₂ emission limits. Any change in the type or configuration of the 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, JRL shall notify the compliance inspector at least 30 days prior to any TRS compliance testing. [060-96 CMR 115, BACT]
3. Compliance with the SO₂ lb/hr and tpy limits and the TRS ppmv limit shall be based on sampling of the landfill gas entering and exiting the control equipment three times during a single day (i.e. three samples at the inlet to the scrubber and three samples at the scrubber outlet) once per month using a test method approved by the Department. JRL shall record the gas flow rate on the days of sampling events. The average of the sampling results for each month, along with the associated gas flow rates, shall be used to estimate the monthly SO₂ emissions based on the assumption that TRS compounds are converted to SO₂ during combustion. Compliance with the SO₂ lb/hr and tpy limits and the TRS ppmv limit shall be based on a 12-month rolling average. [060-96 CMR 115, BACT]

4. Periodic Monitoring [060-96 CMR 115, BACT]

JRL shall monitor and record the following periodic monitors for the flares and associated TRS control equipment

Item to be Monitored	Units of Measure	Monitoring Tool/Method	Frequency
TRS concentration entering TRS control equipment	ppmv	Periodic TRS grab sample tests (or equivalent method)	See Note 1
TRS concentration exiting TRS control equipment	ppmv (12-month rolling average basis)	Periodic TRS grab sample tests (or equivalent method)	See Note 1
LFG flow to flare	scf	Flow meter	Totalized Monthly; See Note 1
LFG flow entering TRS control equip (daily average)	scf/hr	Flow meter	See Note 2
LFG flow exiting TRS control equip (daily average)	scf/hr	Flow meter	See Note 2
H ₂ S concentration entering TRS control equip	ppmv	Colorimetric tubes	See Note 2
H ₂ S concentration exiting TRS control equip	ppmv	Colorimetric tubes	See Note 2
Control Equipment Downtime	Hours	Record in logbook with explanation	As occurs
Unscrubbed bypass	Hours	Record in logbook with explanation	As occurs
Calibration of flow meters	Dates	As specified by manufacturer	Once per year

Note 1: JRL shall sample the landfill gas TRS concentration in accordance with Condition (1)(B)(3) above.

Note 2: JRL shall sample the landfill gas H₂S concentration (both entering and exiting the control equipment) twice in the same day (morning and afternoon, with at least four hours between the two sample times) using colorimetric tubes and average the samples for that day. This sampling method shall occur at least two times per week with at least three days between samples. The colorimetric tube data shall be used as an operational tool and not for determining compliance with numerical emission limits.

C. Control Equipment Uptime

1. JRL shall utilize the flares at all times unless switching is occurring between the primary flare and the backup flares. Switching to and from primary Flare #4 and backup Flares #2 and #3 shall be performed as expediently as possible. Records shall be maintained documenting the date and timeframe when no flaring occurs. [06-096 CMR 115, BACT]
2. JRL shall meet a 95% uptime for all sulfur control equipment on a 12-month rolling total basis; including, but not limited to, scheduled or unscheduled maintenance and repair and equipment malfunction. Periods of downtime (not to exceed 438 hours per 12 month period) may be excluded when determining compliance with the H₂S and TRS ppmv limits. JRL shall keep records documenting compliance with the uptime requirement. [06-096 CMR 115, BACT]
3. Per 38 M.R.S.A. §349.9 The Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection. In the event of an unavoidable malfunction, the licensee must notify the commissioner in writing within 48 hours and submit a written report, together with any exemption requests, to the Department on a quarterly basis. **State Enforceable Only**

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The following are New Conditions:

- (2) If it hasn't already been incorporated through the renewal process, JRL shall submit an application to incorporate this amendment into the Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 CMR 140, Section 1(C)(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 9 DAY OF May, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 4/16/14

Date of application acceptance: 4/16/14

Date filed with the Board of Environmental Protection:

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

