

September 28, 2020

Mr. Mark Draper, Chair
Board of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Subject: Comments on January 13, 2020 Petition to Require Rulemaking Update
to Chapter 400, Public Benefit Determination Requirements

Dear Mr. Draper:

We are writing to clarify and expand on our prior comments, both in writing and at the public hearing, to urge the Board of Environmental Protection (BEP) to reject the citizen petition submitted on January 13, 2020 by Hillary Lister proposing changes to Chapter 400, Maine Solid Waste Management Rule's Public Benefit Determination (PBD) requirements.

One issue that came up at the public hearing related to the efficacy of fines from waste processing facilities such as ReEnergy for alternative daily cover. During the hearing, we responded in part to questions on that topic from Board members, but needed to do some additional research to answer those questions fully.

As an initial matter, it is important to understand the need for alternative daily cover. Landfills are required by Maine Department of Environmental Protection (MEDEP or Department) rules to cover landfill waste daily and there are Department rules regarding thickness and the type of materials that may be used. The Department rules require daily cover material be placed over exposed waste at a compacted thickness of at least 6-inches. To cover the exposed waste, JRL needs approximately 25 percent of the incoming waste volume as daily cover. In addition to that, as a higher operating standard, JRL employs a synthetic intermediate cover material rather than just soil, to increase the efficiency of the gas system and effectively manage storm water and erosion control. JRL utilizes 12 inches of construction and demolition debris (CDD) fines as grading and shaping bedding material beneath the synthetic intermediate cover.

Based on our experience as engineering professionals, fines from waste processing facilities can be used as alternative daily landfill cover material, and in most cases is the preferred material for this use. Good landfill operators always look to beneficially re-use waste materials and preserve capacity as part of landfill construction and operation. Juniper Ridge Landfill (JRL) utilizes shredded tire chips for drainage material within the landfill. Many landfills utilize crushed glass that cannot otherwise be recycled as aggregate for landfill roadways. At JRL, CDD fines created as part of recycling CDD are used for alternative daily cover. Attachment 1 is a letter from MEDEP concluding that JRL uses the appropriate quality and quantity of material.

If alternative daily cover material (such as these fines) is not available, virgin soil will be used as cover material. The same cover thickness is required regardless of the type of material used for daily cover and therefore, the same landfill capacity is consumed by either type of cover material. However, with the use of waste fines as daily cover material, a waste product is being beneficially reused consistent with the intent of the State Solid Waste Hierarchy. Use of virgin soil as cover utilizes a natural resource that is not even a waste and is better served for other types of infrastructure projects.

Some Board members at the hearing questioned whether there are other options available at JRL instead of CDD fines for cover material. The answer is that there are available alternatives, such as ash from PERC and other boilers, contaminated soil, and clean wood chips, but not in quantities sufficient to eliminate the use of the CDD fines for this purpose. For example, although ash is a viable alternative to fines, the ash intake at JRL has been cut more than in half with the closure of Maine Energy and further reduced in 2019 with PERC's reduced throughput and new operating model. JRL instead needs the ash received to cover and bulk wastewater treatment plant sludge. Contaminated soil and wood chips are received on a project basis and are not a reliable incoming material, nor is the quality assured.

Review of other Maine landfill's annual reports indicates a variety of materials utilized as alternative daily cover: soil, wood chips, street sweepings, and auto-shredder residue (ASR). While the use of ASR is intriguing, there is not enough generated in Maine that is not already under contract to be utilized at JRL. Sludge has also been mentioned in the past as suitable cover material, which is not realistic. The purpose of cover over waste is to reduce odor emissions and for vector (birds, vermin, etc.) control. The wastewater treatment plant sludge received is quite odiferous in and of itself, and as it still contains a good deal of organic matter, actually attracts rather than repels vectors. Casella attempted to use a short paper fiber at some of their landfills, but that source is lacking due to paper mill shut-downs, and was found to still produce odors and not be conducive to construction material utilization as it responds similarly to a wet clay, with significant challenges relative to waste stability.

During the public hearing members of the BEP specifically questioned if tarps could be used as a daily cover alternative.

It is our understanding that tarps are a perennial topic of conversation and are utilized only sporadically at Waste Management's Crossroads landfill. They are deployed mechanically, and neither the mechanism nor the tarps themselves stand up well to the harsh operating environment of the open landfill area. Daily cover is typically employed over potentially odiferous loads as they are deposited, which is not possible when deploying a tarp over the working surface only at the end of the day, and should snow fall overnight, the snow would need to be removed from the tarp prior to rolling it back up, making winter operations difficult. As may be seen in the MEDEP letter provided in Attachment 1, tarps are also not as effective as soil-type materials in reducing odor and gas generation, in part because they are difficult to secure properly on the working face of the landfill, particularly in windy conditions, and in part because they are not durable enough to avoid tearing. Accordingly, we do not believe that tarps would be effective as alternative daily cover at JRL.



Please do not hesitate to let us know if you have any follow-up questions.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

A handwritten signature in black ink that reads "Brian Pierce". The signature is written in a cursive, flowing style.

Brian Pierce, P.E.
Principal/Chief Engineer

A handwritten signature in blue ink that reads "Rhonda M. Forrester". The signature is written in a cursive, flowing style.

Rhonda N. Forrester, P.E.
Project Manager

Attachments

cc: Toni King, NEWSME
Wayne Boyd, NEWSME
Brian Oliver, NEWSME
Brian Rayback, Pierce Atwood

ATTACHMENT 1

MEDEP MEMO DATED JANUARY 10, 2012

MEMORANDUM

To: Cyndi Darling, Environmental Specialist - Division of Solid Waste Management
From: Michael Parker, Environmental Specialist - Division of Solid Waste Management
Date: January 10, 2012
Subject: Juniper Ridge Landfill
Public Benefit Determination Application
MEDEP Project Number S-20700-W5-AU-N

On September 16, 2011, the Maine State Planning Office submitted an application for a Public Benefit Determination for the Juniper Ridge Landfill. Included in the application was information on types and volumes of wastes disposed of in the landfill, current and projected capacity needs for the facility and the State of Maine and how the proposed expansion would be consistent with the State Waste Management and Recycling Plan and with local, regional and statewide collection, storage, transportation, processing or disposal practices. A public informational meeting was held on October 24, 2011 that afforded interested parties the opportunity to comment on the application. On November 21, 2011, the applicant submitted responses to several of the comments made at the October 24, 2011 meeting.

Several oral and written comments were submitted regarding the use of fines from the Casella-owned KTI facility as alternative daily cover (ADC), describing the use as excessive. Further, commenter's noted the use of tarps by Waste Management at the Crossroads landfill as daily cover in lieu of wastes and soil materials. In response, the applicant compared the use of ADC at the Juniper Ridge and Crossroads landfills. Specifically, the applicant compared the total daily cover usage as a percentage of the total tonnage accepted and ADC cover usage as a percentage of the total tonnage accepted between 2007 and 2010. Over the four-year period, the total daily cover usage as compared to the total tonnage accepted was very similar for the two facilities (35 percent for Crossroads vs. 31.7 percent for Juniper Ridge). Over the same four-year period, Juniper Ridge used slightly more ADC as compared to the total tonnage accepted (31.7 percent for Juniper Ridge vs. 29.3 percent for Crossroads). It is worth noting that 100 percent of the daily cover material used at the Juniper Ridge Landfill was ADC, where the use of ADC at the Crossroads landfill ranged from 82 to 91 percent, with the remainder made up of soil.

Further, the applicant calculated and compared the amount of daily cover needed versus the amount of daily cover applied as a function of waste thickness (1- and 2-foot thicknesses) and cover thicknesses (6- and 9-inch thicknesses). With the exception of the 2-feet of waste/6-inches of cover scenario (603 tons per day calculated versus 660 tons per day actually applied), the amount of daily cover actually applied was below the calculated amount. Chapter 401.4(C)(8)(a) of the Solid Waste Regulations specifies a minimum of 6 inches of daily cover material be applied over all exposed wastes at the end of each day of operation to completely and effectively cover the solid waste. Based on the requirements of the rules and the actual rates of daily cover applied, the use of ADC at the Juniper Ridge Landfill is not excessive and meets the purpose and intent of the rules.

Juniper Ridge Landfill PBD

S-20700-W5-AU-N

January 10, 2012

Finally, several commenters' noted the use of tarps as daily cover at the Crossroads Landfill and requested that the Juniper Ridge Landfill be required to use tarps as daily cover, thereby reducing the amount of KTI fines imported to the landfill and saving capacity for other wastes.

Department staff discussed the use of tarps at the Crossroads facility with Waste Management staff. While Waste Management staff noted that tarps are relative easy to deploy and recover over the active landfill area and that the use of tarps does reduce the amount of daily cover and, by de-facto, the amount of ADC applied, tarps cannot totally replace the use of soil or ADC. Tarps cannot be deployed effectively in windy conditions or during the winter due to snow cover. Also, tarps are not as effective as soil or ADC in controlling odors. Requiring the use of tarps as the sole means of daily cover at the Juniper Ridge Landfill is neither feasible nor practicable.