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DEPARTMENT OF ADMINISTRATIVE & FINANCIAL SERVICES
BUREAU OF GENERAL SERVICES
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AUGUSTA, MAINE
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INTERIM DIRECTOR

December 14, 2017

Ms. Kathleen E. Tarbuck, P.E.
Environmental Engineer
Maine Dept. of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Re: Juniper Ridge Landfill (JRL) Amendment Application for License #S-020700-WD-BC-A
Continued Acceptance of In-State MSW

Dear Kathy:

Following up on your recent request, attached is "Supplemental Information on Solid Waste Management Hierarchy." This additional information will serve to supplement Section 2.2 ("Amendment Finding 5. Solid Waste Management Hierarchy") and Appendix 4 ("JRL Summary of MSW Diversion Efforts") of the Amendment Application we submitted on November 27. We will send copies by certified mail to those that received a copy of the Amendment Application: City of Old Town, Town of Alton, and the Penobscot Nation.

Please feel free to contact us should you have any additional questions.

Sincerely,

Gilbert M. Bilodeau, Interim Director
Bureau of General Services

Brian Oliver, Vice President
NEWSME Landfill Operations, LLC

SUPPLEMENTAL INFORMATION ON SOLID WASTE HIERARCHY

This document provides additional information on costs, one of the factors in determining "maximum extent practicable," as defined in the Solid Waste Hierarchy Standard of Section 400.4.N of the Solid Waste Management Rules. This filing supplements the information in Section 2.2 of the Amendment Application and in Appendix 4. Those materials describe how the current and future acceptance of municipal solid waste (MSW) into existing JRL is reduced to the maximum extent practicable in accordance with the conditions set forth in the MSW Amendment and the requirements of the Solid Waste Management Rules. As illustrated by the data contained in Table 2 of the Application, between 2014 and 2016 significantly more MSW under the Applicants' control has been diverted from disposal to facilities higher on the hierarchy than has been disposed at JRL.

On March 31, 2018, a number of events affecting the solid waste industry in Maine coincide, including the expiration of existing MSW disposal contracts between municipalities and PERC, the expiration of existing disposal agreements between PERC and Casella Waste Systems, Inc. ("CWS"), potential changes in the operational structure of PERC following the expiration of the existing above-market power sales agreement with the local utility, the anticipated start-up of the Fiberight MSW processing facility, and the expiration of the approval for JRL to accept non-bypassed MSW for disposal.

There are three potential scenarios where the Applicants could theoretically divert additional MSW from the JRL facility. These are: 1) additional diversion to one of the southern Maine waste incinerators; 2) additional diversion to the PERC or Fiberight facilities; and 3) additional separation or processing of the MSW to remove recyclables or organics. Each of these scenarios and their practicability in terms of cost are discussed below. In addition, information is provided on the alternatives and cost implications of not using MSW in site operations, and potential disposal of the MSW at other landfill facilities.

Additional diversion to southern Maine waste incinerators:

The two waste incinerators in southern Maine, ecomaine in Portland and MMWAC in Auburn, will not be adversely affected by the market changes identified above following March 2018. In 2016, CWS supplied these facilities 45,837 and 38,161 tons of MSW and processing residue, respectively, diverting this waste from disposal at JRL or any other landfill facility. As outlined in the Maine Solid Waste Generation and Disposal Capacity Report issued in January 2017 (utilizing 2015 data), each of these facilities currently handles waste volumes slightly in excess of their rated capacity (see Tables 4 and 6 from this report). Additionally, some of the municipalities whose contracts with PERC will expire in March 2018 have decided to enter into contracts with ecomaine or MMWAC as their future MSW disposal option. Because these facilities are already exceeding their rated capacity, and it appears that they will continue to do so, further diversion of MSW to them is not practicable. Costs associated with doing so would be a secondary consideration. Therefore, ecomaine and MMWAC are not viable options to handle the stranded MSW that is proposed to continue to be disposed at JRL with this Amendment.

Additional diversion to the PERC or Fiberight Facilities:

Applicant NEWSME's sister company, Pine Tree Waste, Inc., has executed an agreement with Fiberight to supply 40,000 tons annually of Maine MSW under its control. An extended agreement with PERC is being negotiated to supply 30,000 tons annually of former Maine Energy-disposed MSW, plus additional commercial MSW volume within the Applicant's control. These agreements, between the supplier, Pine Tree Waste, Inc., and the users, both Fiberight, acting though its related entity, Coastal Resources of Maine, LLC, and PERC, address both quantities and the costs for disposal of the MSW covered by the agreements. The agreements essentially define the criteria for determining the maximum extent practicable since, as explained below, both parties have cost limitations that prevent the agreements from covering additional MSW volume.

As discussed in the Application, the extension of the acceptance date of MSW to JRL will serve to meet the ongoing need of primarily southern Maine communities, formerly contracted with Maine Energy Recovery Company. These "Tri-County Solid Waste Group" municipalities all maintain long-term disposal agreements with CWS at fixed prices.[1]

For the supplier of the waste, the cost limitations relate to how much can be paid in tipping or disposal fees while still covering expenses for collecting, consolidating and transporting the MSW to the receiving facility. For both Fiberight and PERC, the tipping fees they charge need to cover their costs of operations. Since all parties to these agreements are commercial operations, the rates also must also allow the entities to profit from the agreements. Simply put, both Fiberight and PERC could accept additional volumes of material, but to cover their additional operational costs, the necessary disposal fee would have to be so high as to preclude the ability of CWS to cover the cost of their waste handling and management. In other words, it would be uneconomic for the Applicant to divert additional MSW to either of these facilities at the significantly higher tipping fees they would require, and they would not accept additional MSW at the tip fee the Applicant would be able to pay.

Additional separation or processing to remove recyclables or organics:

Most of the MSW proposed to be disposed at JRL is from the contracted municipalities summarized in Table 1 of the Application. The majority of the MSW from these communities is handled through CWS's Westbrook transfer station. The vast majority of these communities have recycling programs in place and/or utilize CWS's Zero-Sort® recycling program. The robustness of each community's recycling program is not within the Applicants' control. As an integrated provider of solid waste services, however, CWS works with these communities to expand their programs upon request. For example, CWS has recently worked with the Town of Scarborough to assist in implementation of a proposed organics recycling program.

The ultimate decision to source-separate recyclables from MSW is made on an individual basis either by a resident or at a place of business. The remaining material, mixed MSW, is collected and delivered in this case to the Westbrook transfer station.

The ability to further remove material from MSW consolidated at any transfer station is limited by operational safety considerations, and the design, permitting, and construction of the facility.

[1] Tri-County municipalities have disposal agreements with CWS that extend to June 30, 2025. The Amendment Application, page 2-5, incorrectly references these contracts as extending through 2027.

Due to the nature and volume of materials received at the transfer station in its current configuration, additional removal of potential recyclable materials would have to be done by personnel physically sorting through the waste, placing them at risk of injury. To allow the transfer station to further separate potentially recyclable materials, the facility would need to be physically modified from a transfer station to a material recycling / processing facility. There are a number of cost factors that do not financially support such a conversion. These include the cost of capital to make this conversion, the revenue that could be generated by such a facility, and the tipping fee that would have to be charged by the facility to support its operations.

Similar to the recyclable materials market, organics or food waste separation cost-benefit analyses indicate that the majority of the economic value lies in the ability to manage food waste before it gets wasted. ReFED's 2016 *Roadmap* states: "…the benefits of prevention and recovery, which capture the value of edible food, are many times higher than those gained from recycling food scraps …. when food is ready to be thrown away as scraps, its value has generally dropped by 10 to 50 times …. This value is captured by processing facilities in the form of avoided disposal fees and the sale of energy and compost."[2]

In sum, further separation or processing is not currently practicable for the stranded MSW addressed in the Application.

Alternatives and Costs Associated with not using MSW in Site Operations:

Section 2.5 of the Application addresses the proposed use of the MSW in the operations of JRL as both a pre-grading and shaping material in landfill closure and to assist with bulking of the wastewater treatment plant sludge received at the facility. Should this Application be denied, and thus MSW were no longer available for use in these applications, operations at the facility would change. This waste stream would need to be replaced with an alternate material, such as CDD fines, virgin soil, or woodchips. As discussed within the Application, the mixing of sludge and CDD and/or CDD fines is not desirable because it would cause an increase in hydrogen sulfide generation at the landfill. Soil or woodchips would require a commodity purchase, versus utilizing a material in a beneficial manner that generates a fee, such as MSW, resulting in an operational expense swing from positive to negative. Available capacity would obviously also be consumed by materials other than waste.

Substituting virgin materials in the landfill operations for purposes that are currently accomplished by utilizing MSW is not consistent with the Hierarchy, as landfill space would be consumed by materials that do not require disposal. As an alternative to purchasing material for final landfill closure grading and shaping, the landfill final grades could be reduced, ultimately decreasing the facility's permitted disposal capacity, resulting in an increase in required cost per ton of the remaining materials disposed to properly fund closure costs and post closure monitoring and maintenance in accordance with MEDEP Rules.

Disposal at Other Maine Landfills:

While not a requirement of achieving compliance with the Hierarchy, we have reviewed the availability of alternative landfills to provide capacity for MSW in conjunction with the evaluation demonstrated in the Application of various scenarios for the alternative management of MSW generated in Maine post-March 2018. Augusta, Bath, Brunswick and Presque-Isle are

[2] Rethink Food Waste Through Economics and Data; Roadmap; 2016, page 21.

municipal landfills that accept MSW, but mostly from within their municipalities. Tri-Community, a quasi-municipal landfill, can and will accept additional sources of MSW beyond the borders of the three municipal owners, but transportation to that facility from beyond Aroostook County (e.g., southern Maine) is cost-prohibitive. Ecomaine owns and operates a landfill entirely for its own use. Norridgewock is the only surviving commercial landfill in the State, owned and operated by Waste Management, Inc. This landfill receives MSW. However, the current annual acceptance rate of total materials is greatly in excess of that anticipated during the facility's most recent Public Benefit Determination and Solid Waste Expansion license, resulting in an estimated 5-10 year permitted capacity remaining. In addition, with the approval of the Fiberight facility construction, Norridgewock has been named as the receiving facility for residuals, bypass, and "MSW Bridge Capacity" (defined as MSW brought to the Fiberight facility between April 1, 2018, and the start of commercial operations), potentially further reducing Norridgewock's permitted capacity. Further, disposal fees at Norridgewock and transportation costs would preclude the ability of CWS to cover the cost of the waste handling and management from the Tri-County Solid Waste Group.

Closing:

As described herein, there are market forces and cost implications to the Applicants, customers (Maine residents, municipalities, and businesses), and processing and disposal facilities that control the practicability of diverting additional MSW that is proposed for continued acceptance at JRL. Alternative processing or disposal is either at capacity or is cost-prohibitive, when considering transportation, handling logistics, existing agreements, and tip fees. The "stranded" MSW that is the source of this Application, under the Applicants' control, has been reduced, reused, recycled, composted and/or processed to the maximum extent practicable, considering costs that are associated with various waste handling methods.