



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

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August 16, 2013

Jerome Gagliarducci
Cottage Developers, LLP
295 Pasco Road
P.O. Box 296
Springfield, MA 01151

William T. Blanchard
Western Massachusetts Electric Company
1 Federal Street, Building 111, 4th Floor
Springfield, MA 01105

Re. Springfield - SWM - Landfill
Photovoltaic Power System
Cottage Street Landfill
Project Modifications
File No. 13-281-023

Dear Mr. Gagliarducci and Mr. Blanchard:

The Department of Environmental Protection, Western Regional Office ("MassDEP"), has received a letter dated July 31, 2013 from the Western Massachusetts Electric Company ("WMECO"). It requests approval to modify the design of a previously-approved 4.9 megawatt ("MW") photovoltaic ("PV") power system to be constructed at the Cottage Street Landfill ("Landfill"). The previous approval was issued on March 15, 2013, but construction has not been initiated.

The requested modifications are described in the letter and depicted in two attached plans, including Plan C-1/Sheet 1 of 1, entitled *Fence Revision at Southwest Property Corner*, and Plan C-4/Sheet 6 of 12, entitled *Site Layout Plan* (Plan C-4 replaces a similar plan in the approved set of plans previously revised December 21, 2012). Weston & Sampson Engineers, Inc. of Peabody, MA prepared these plans.

Requested modifications include the following:

- To change a detail for both the panel ballasts and conduit supports on Plan C-7. The original design depicted that the upper two inches of vegetative support soil would be

removed for installation of these items. WMECO now proposes that the upper two inches will not be removed.

- To eliminate additional fencing that was proposed to enclose the PV system. After reviewing the existing perimeter fencing and natural barriers, WMECO believes that the system is generally not readily accessible. WMECO proposes to extend an existing fence by about 90 feet in the southwest corner of the site to improve and complete access control.
- To reduce the total capacity of the PV system from 4.9 to 3.9 MW. This change will reduce the area of the landfill that will be covered by PV panels. The revised layout is depicted on the revised Sheet 6 of 12.
- To clarify the circumstances under which the on-site engineer must be at the site to observe construction activities pursuant to Condition 2 of the existing approval.
- To clarify the intent of Condition 3 of the existing approval, which specifies that WMECO is an Operator as defined in 310 CMR 19.006.
- To eliminate Condition 17 of the existing approval, which requires that the end of a specific electrical conduit must be vented to prevent landfill gas from accumulating. WMECO believes that the end must be sealed to prevent entry of rain and snow, and the location and design of the conduit makes accumulation of landfill gas unlikely.

MassDEP approves the proposed modifications, subject to the conditions below.

Determination

This Approval is issued pursuant to Massachusetts General Laws Chapter 111, Section 150A and 310 CMR 19.000, subject to the conditions set forth below and the standard conditions at 310 CMR 19.043(5) and any amendments thereto. In the event this Approval conflicts with all or parts of prior plan approvals or permits issued pursuant to c. 111, s. 150A or solid waste regulations in effect prior to July 1, 1990 the terms and conditions of this Approval shall supersede the conflicting provisions of the prior permits or approvals. This Approval does not convey property rights of any sort or any exclusive privilege.

Conditions

1. The PV system shall be constructed in accordance with the plans and specifications previously approved for this project, except as modified by the revised plans and narrative descriptions referenced above, and as may be modified by this Approval or otherwise approved by MassDEP in writing.
2. Engineering oversight:
 - A. A third-party, qualified engineering consultant (the "on-site engineer") shall be present on-site at all times when any photovoltaic system ("PV system") construction work involves excavation into the cap and/or the operation of heavy machinery off of the access roads. The on-site engineer need not be present in cases when heavy machinery is strictly limited to the designated access roads and the engineer has previously determined that the machinery does not exceed the maximum allowed pressure on the

geomembrane (5 pounds per square inch) when operated on the access roads. For the purposes of this Condition, "heavy machinery" shall be defined as any vehicle or machinery whose ground pressure exerted on the HDPE liner exceeds that of a standard loaded pickup (8,200 pounds). WMECO shall ensure that the contractor provides advance notice to the engineer of the dates when excavation work and operation of heavy machinery on the cap will occur and the types of vehicles and equipment that will be used to perform that work.

- B. The on-site engineer shall have sufficient staff on-site to provide quality assurance/quality control (QA/QC) oversight for all PV system construction work at the site and shall submit monthly construction progress reports to MassDEP, which shall summarize the PV system work performed during the month. At the end of construction work, the on-site engineer shall submit a completion report, signed and stamped by a Massachusetts-registered Professional Engineer, certifying that the work was completed in accordance with the application and the conditions of this Approval. Notwithstanding Part A of this Condition, the engineer shall inspect the site at sufficient frequency to provide complete QA/QC oversight and have a firm basis for certifying the work.
3. The Permittees, their contractors and subcontractors, and the on-site engineer shall be considered Operators with respect to the construction of the PV system and compliance with plans and specifications. The Permittees shall also be considered Operators during the operational life and decommissioning of the PV system. As such, MassDEP may take enforcement action against the Permittees and/or the on-site engineer, consistent with its authority under applicable Massachusetts laws and regulations, for any failure to construct the PV system in accordance with approved plans and specifications of which the Permittees or the on-site engineer were, or should have been, aware. 310 CMR 19.006 defines "Operator" as follows:

Operator means any person who has care, charge or control of a facility subject to 310 CMR 19.000, including without limitation, an agent or lessee of the owner or an independent contractor.

The applicability of this Condition to WMECO is generally limited to the construction and operation of the PV system and mowing of the landfill cap in the array area only. WMECO is not responsible for the operation and maintenance of the landfill or final cover (except for mowing in the array area), and as such, WMECO is not responsible for maintaining monitoring wells, gas collection and treatment systems, stormwater control, landfill financial assurance, or environmental monitoring. In addition, MassDEP acknowledges that WMECO is not a permittee with respect to the Closure Certification Report Approval issued February 28, 2011, and is therefore not subject to the conditions of that approval. However, MassDEP reserves the right to take appropriate enforcement action against WMECO if the actions or inactions of WMECO and/or its contractors causes damage to the landfill resulting in a threat, or actual harm, to public health, safety, and/or the environment.

4. Cottage Developers and WMECO are responsible to ensure that all necessary precautions are taken to protect the health and safety of workers and the general public during both construction and maintenance of the PV system. A site-specific Health and Safety Plan for the construction and maintenance of the PV system shall be submitted to MassDEP prior to the beginning of any PV system construction work, which shall include protocols for monitoring of landfill gas as needed and protocols for modifying work practices if landfill gas is detected at levels deemed unsuitable. The Health and Safety Plan shall address, in detail, the hazards posed by landfill gas and hydrogen sulfide. The plan shall be provided

to, and reviewed with, all site workers, contractors, and maintenance staff prior to entering the site.

5. All disturbance of the landfill cap during construction of the PV system shall be limited to the proposed excavations and installations within and on top of the vegetative support layer of the cap, except for landfill gas collection system work and cap underdrain installation, as depicted and described in the approved plans and specifications. No other excavations or other penetrations shall be performed into the sand drainage layer of the cap without separate written approval from MassDEP. There shall be no penetrations (utility, conduit or other) at the base of any concrete footings or foundations. There shall be no penetrations of any kind of the HDPE impermeable layer (i.e. liner) of the cap.
6. Cottage Developers, WMECO, and their contractor(s) are responsible to ensure that the inverter and transformer enclosures on the landfill cap area will not accumulate landfill gas within the enclosures during the construction and operation of the PV system. Any landfill gas levels exceeding 10% of the Lower Explosive Limit (% LEL) within an inverter or transformer enclosure shall trigger the requirements of 310 CMR 19.132(4)(g), for notification and action. The additional requirements for the enclosures include the following:
 - A. The floor of each enclosure shall be solid, with no openings for landfill gas to enter at the floor level; and
 - B. There shall be no utility, conduit or any other penetrations at the base of the enclosures or their foundations; i.e. - all utility penetrations shall enter only through the side of the enclosure, not the bottom, and these penetrations shall be fully sealed.
7. Gas-tight seals shall be placed in the electrical conduits wherever they enter or leave any transformer, inverter, or switchgear (if pad-mounted).
8. All necessary precautions shall be taken to ensure that the proposed construction and maintenance work associated with the PV system shall not in any way damage the impermeable layer of the landfill cap, landfill stormwater control structures, landfill monitoring wells, or the landfill gas collection system. If any damage occurs to any of the above-listed landfill components due to the construction, operation, or maintenance of the PV system, Cottage Developers and/or WMM shall notify MassDEP immediately (within 24 hours maximum), a written plan for repair of the components shall be submitted to MassDEP within 48 hours, and any repair work shall be completed on a schedule determined by MassDEP.
9. Prior to the commencement of PV system construction activities, all landfill gas vents, landfill gas collection wells, monitoring wells and other existing, above-ground structures of the landfill cap and appurtenances shall be flagged for visibility, and protective barriers shall be placed around such structures as needed to prevent damage by vehicles accessing the cap area.
10. Vehicles operating on the landfill cap shall only operate on the designated access roads, except for construction equipment presenting a ground pressure on the HDPE liner of 5 psi or less when operated off the access roads. The on-site engineer and contractor shall verify the ground pressure of all equipment prior to allowing it to operate on the cap. All operators of vehicles entering the cap area shall be clearly instructed by the on-site engineer and/or the contractor of the requirements of this Approval prior to arrival, to avoid damage to the landfill cap components. Excavations into the vegetative support layer of the cap shall not

be performed using a toothed excavation bucket, and the on-site engineer shall observe the full extent of each such excavation. If MassDEP determines that the use of excavation equipment is creating the potential for damage to the impermeable cap layer, the usage of such equipment shall cease immediately upon notification by MassDEP, and all remaining excavation work on the cap shall be performed by hand digging.

11. If timber matting is required by the Springfield Conservation Commission for the construction of temporary roads within the 100-foot wetlands buffer, WMECO shall submit additional information for MassDEP review at least 14 days prior to installing it. Such information shall include product identification and manufacturer's literature, detail drawing(s) showing how it will be installed, and an engineering analysis regarding the material's ability to handle loads from heavy trucks/machinery and provide adequate protection for the final cover system.
12. Any vegetative support soil removed from the site, including but not limited to material incorporated into the surficial organic layer that will be removed for the installation of ballast blocks and equipment pads, shall be managed in a manner consistent with any Beneficial Use Determinations or other specific MassDEP approvals in effect at the time of its installation. This condition shall not apply to conventional topsoil or other material that was approved for unrestricted use.
13. During the first year of operation of the PV system, inspections of the landfill cap in, and adjacent to, areas containing PV system components shall be performed on a monthly basis, and monthly inspection reports shall be submitted to MassDEP. Following the first year of operation of the PV system, inspections of the landfill cap in areas containing, and adjacent to, PV system components shall be performed on a quarterly basis, and quarterly inspection reports shall be submitted to MassDEP. Any erosion problems, settlement problems, or other issues observed on the landfill cap in areas containing, or adjacent to, PV system components, during these inspections shall be reported to MassDEP and repaired immediately.
14. This post-closure use permit shall be valid for a period of 30 years from the date of this permit, provided that MassDEP may amend the term of the permit in accordance with an approved modification pursuant to either 310 CMR 19.039 or 19.040. If Cottage Developers or any successor owners/operators intends to operate the PV system after the expiration of this permit, such entity is required to submit a request for a renewal of the permit at least 90 days prior to the expiration of the permit.
15. A landfill gas monitoring well shall be installed within the area delineated by the landfill gas venting trench around the metering/communications pad and primary metering pad near Cottage Street. It and the passive vents from the trench shall be monitored for the same parameters and same frequency as the other landfill gas monitoring wells at the Landfill. If desired by the permittees, an additional landfill gas monitoring well may be installed at the location shown on the approved plans.
16. If stormwater flowing off of the panels results in erosion to the landfill final cover, drip edge splash pads shall be installed in the affected locations, or other action(s) shall be taken as approved or required by MassDEP to repair the erosion and prevent future erosion.
17. MassDEP and its agents and employees shall have the right to enter upon the landfill at all reasonable times, to inspect the landfill and any equipment, structure or land located thereon, take samples, recover materials or discharges, have access to and photocopy records, to perform tests and to otherwise monitor compliance with this Permit and all

environmental laws and regulations. This right of entry and inspection shall be in addition to MassDEP's access authorities and rights under applicable federal and states laws and regulations, as well as any permits or other agreements between the Permittee and MassDEP.

18. MassDEP reserves the right to require additional or increased monitoring or maintenance activities in the event that the post-closure use is or may be having a detrimental effect on the landfill cap or appurtenances. MassDEP reserves all rights to suspend, modify or rescind this permit, should the conditions of this permit not be met, should the PV system create nuisance conditions or threats to public health, safety or the environment, or should MassDEP otherwise determine that continued post-closure use is negatively impacting the landfill cap or appurtenances. The management of actual or potential nuisance conditions and the prevention of threats to public health or safety from any aspect of the management of the Landfill shall take precedence over the operation and maintenance of the PV system.
19. The conditions of this Approval shall supersede those of the previous approval dated March 15, 2013.

This approval pertains only to the Solid Waste Management aspects of the proposal and does not negate the responsibilities of the owners or operators to comply with any other local, state, or federal laws, statutes and regulations or enforcement actions, including orders issued by another agency now or in the future. Nor does this approval limit the liability of owners or otherwise legally responsible parties from any other applicable laws, statutes or regulations now or in the future.

Pursuant to 310 CMR 19.037(5), any person aggrieved by the issuance or denial of this permit decision, except as provided for under 310 CMR 19.037(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, s. 150A and c. 30A not later than thirty [30] days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30 A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the thirty [30] day period.

Any aggrieved person intending to appeal the decision to the superior court shall provide notice to the Department of said intention to commence such action. Said Notice of Intention shall include the Department File Number (13-281-023) and shall identify with particularity the issues and reason(s) why it is believed the approval decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which made the decision. The appropriate addresses to which to send such notices are:

General Counsel
Department of Environmental Protection
One Winter Street-Third floor
Boston, MA 02108

Regional Director
Department of Environmental Protection
436 Dwight Street - Fifth Floor
Springfield, MA 01103

No allegation shall be made in any judicial appeal of this decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in those regulations, provided that matter may be raised upon a showing that it is material and that

it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the public health or environmental impact of the permitted activity.

MassDEP reserves the right to rescind or modify this Approval approval or to require additional operating conditions, should available information indicate such a need.

If you have any questions or comments regarding any of the matters stated above in this Approval, please contact Jim Scheffler of my office at (413) 755-2127.

Sincerely,

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Daniel Hall
Solid Waste Chief
Bureau of Waste Prevention
Western Region

JPS/jps

cc: City of Springfield Department of Health and Human Services

Electronic cc:

Allan Chwalek - Springfield Department of Public Works
Amy Voisine-Shea, WMECO
Duane Himes, PE - Weston & Sampson
Dave Moreira - Waste Management of Massachusetts
Kathy Brown - East Springfield Neighborhood Council
Peter Czapienski - DEP WERO
Paul Emond - DEP Boston