



Department of Environmental Protection

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BWP SW 37 POST-CLOSURE USE – MINOR

Winchendon Landfill: Solar Project

Permit Issuance Date: July 1, 2011

Name of Permittee: Town of Winchendon (“Permittee” or “Applicant”)
109 Front Street
Winchendon, Massachusetts 01475

Name of Facility: Winchendon Landfill (“Facility” or “Landfill”)
Facility Address: River Street
Winchendon, Massachusetts 01475

DEP Region: Department of Environmental Protection (“Department” or “MassDEP”)
Central Regional Office (CERO), Worcester
Division of Solid Waste Management

Permit Number: X237658 (Transmittal No.)

I. FACILITY DESCRIPTION AND OUTSTANDING APPROVAL STATUS

A. Facility

1. Owner: Town of Winchendon
109 Front Street
Winchendon, Massachusetts 01475
2. Operator: None
3. Description: The Landfill occupies approximately 13 acres on a 67.5 acre parcel of land located in a rural area of Winchendon. The Landfill had been in operation since the early 1970s, receiving municipal solid waste and construction and demolition waste. The Landfill was capped in 1999. The Town transfer station is located to the southeast of the capped Landfill, and an extensive borrow pit, the site of the proposed solar array project, is located to the east of the Landfill.

B. Reviews and Approvals Affecting Current or Planned Operation.

1. MEPA: Not Applicable
2. Site Suitability Report: Not Applicable
3. Site Assignment: October 4, 1997 by Winchendon Board of Health
4. Permit for BWP SW 25 Corrective Action Design, Final Closure Design for the Winchendon Sanitary Landfill, Transmittal No. W001281
Issued by MassDEP-CERO: October 6, 1998

C. Permit Application Information for BWP SW 37 Post-Closure Use – Minor

1. Applicant Name: Town of Winchendon
2. Transmittal Number: X237658 (Permit No.)
3. Start Date of Application: March 31, 2011
4. Date of Fee Receipt: Exempt
5. Consulting Registered Professional Engineer:

TRC Corporation
249 Western Avenue
Augusta, ME 04330
Contact: David Andrews, P.E.
Tel.: 207-430-0721
6. Title of Plans & Reports, Submission and Date of Receipt at DEP, CERO:

BWP SW 37 Minor Post-Closure Use Permit Application, Winchendon
Landfill, Winchendon, MA
Prepared by: Axio Power and TRC
Dated: March 29, 2011
Received by MassDEP-CERO: March 30, 2011

Response to May 11, 2011 Technical Review Comments titled “Town of
Winchendon Solar Project, BWP SW 37 Application for Post-Closure Use
Permit”
Prepared by: TRC
Dated: May 25, 2011
Received by MassDEP-CERO: May 31, 2011

Supplemental Material to TRC May 25, 2011 Technical Review Response
Prepared by: TRC
Dated: June 14, 2011
Received by MassDEP-CERO: June 14, 2011

7. Project Description:

The post-closure use request is for the installation of a 2.4 megawatt (MW) photovoltaic (PV) solar array project on land adjacent to the town owned Winchendon Landfill. The solar array facility will be constructed on a parcel of land that abuts the Winchendon Landfill and that falls within the site assigned limit of the landfill issued by the Winchendon Board of Health. The Town of Winchendon proposes to construct and maintain a solar PV array within the existing sand pit to the east of the Landfill consisting of the following components:

- 10,400 230-watt photovoltaic panels on above-ground racks.
- Pole Mounted PV above-ground support racks each holding 26 panels stabilized by driven stake foundations anchored at a depth appropriate to the site.
- Installation of two inverter stations and one transformer. The solar panels will be connected by both above-ground and below-ground DC conductors to the inverters.
- A below-ground transmission line from the inverters that will connect to the transformer.
- Installation of interconnect equipment connected to the transformer(s) via buried AC conductor.
- A perimeter fence and closed-circuit TV cameras that will provide site security.

This post-closure use permit authorizes the proposed solar array installation on the abutting sand pit to the east of the Landfill and the associated project construction staging/laydown area to the north of the Landfill. It does not apply to the solid waste transfer station that is operated by the Town on a different area of land adjacent to the Landfill.

II. POST-CLOSURE USE – MINOR, APPLICATION REVIEW AND APPROVAL

This application complies with the application requirements set forth at 310 CMR 19.016: Post-Closure Use and 19.143: Post Closure Use of Landfills, and was reviewed in accordance with 310 CMR 19.037: Review Procedure for Existing Facility Permits, Permit Modifications, Permit Renewals and other Approvals. The plans and reports described above establish that the submittal complies with the criteria set forth with the

review process at 310 CMR 19.038: Applicability and Review Criteria for a Permit or Permit Modification and 310 CMR 19.143: Post-Closure Use of Landfills.

This document is a Permit, issued pursuant to Massachusetts General Laws (MGL) Chapter 111, Section 150A and 310 CMR 19.000, the Solid Waste Management Facility Regulations (the “Facility Regulations”) and is subject to the conditions set forth below. In the event this Permit conflicts with all or parts of prior plan approvals or permits issued pursuant to Chapter 111, Section 150A or solid waste regulations in effect prior to July 1, 1990, the terms and conditions of this Permit shall supersede the conflicting provisions of the prior permits and/or approvals. This Permit does not convey property rights of any sort or any exclusive privilege.

III. GENERAL PERMIT CONDITIONS

1. **Compliance with Plans** - The Permittee shall assure that the Facility is operated in accordance with approved plans, reports, and other submissions described in Section I, except as may be modified by the conditions set forth in Section IV. No material changes in the design or activities described in the approved documents shall be performed without prior written MassDEP approval.
2. **Compliance with Other Approvals** - The post-closure use of this Facility shall be in compliance with other applicable local, state and federal laws and regulations.
3. **Standard Conditions** - The Facility shall be maintained in accordance with the conditions set forth at 310 CMR 19.007-19.011 and 19.043(5).
4. **Joint Liability** - This Permit is issued subject to the conditions of joint liability of the Permittee and owner in accordance with 310 CMR 19.043(3).
5. **Transfer** - No transfer of the Permit shall be permitted except in accordance with 310 CMR 19.044.
6. **Permit Modification** - MassDEP reserves the right to rescind, suspend or modify this Permit by the imposition of additional conditions based upon a determination of actual, or the threat of, adverse impacts from the maintenance, closure or post-closure use of the Facility.

IV. SPECIFIC PERMIT CONDITIONS

1. **Criteria for Post-Closure Use** - This approval for post-closure use of the Winchendon Landfill shall be accomplished such that all activity associated with the project, as described in the application, will take place outside the footprint of the Landfill and shall not in any way alter the Landfill or the site environmental monitoring systems.

2. **Post-Closure Environmental Monitoring** - The Permittee shall maintain the existing and/or any future environmental control or monitoring systems in accordance with 310 CMR 19.133: Maintenance of Environmental Control and Monitoring Systems.
3. **Other Post-Closure Use** - The closed landfill shall not be used for any other post-closure activity without submittal and Department approval of a Post-Closure Use Permit Application in accordance with 310 CMR 19.143: Post-Closure Use of Landfills.
4. **Notification of Construction:** The Permittee shall notify MassDEP in writing (e-mail is acceptable) when the post-closure use construction commences and is completed.
5. **Certification Report:** Within ninety (90) days of completing the installation of the solar photovoltaic array project, MassDEP shall be provided with a certification report. All construction work shall be completed under the supervision of a Massachusetts Registered Professional Engineer who shall have sufficient staff on-site to provide quality assurance/quality control (QA/QC) oversight for all construction work associated with the project. The report shall include, at a minimum, written certification from the supervising engineer that the project was performed in accordance with MassDEP regulations, applicable requirements and the approved Post-Closure Use permit application. The report shall include as-built drawings depicting all pertinent site features and the extent of the project area.
6. **Personnel Training:** The Town and its contractor(s) shall be instructed regarding the potential hazards associated with landfill gas and shall instruct or give on-the-job training to all personnel involved in any activity authorized by this permit. Such instruction or on-the-job training shall teach personnel how to comply with the conditions of this Permit to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare or the environment. Training shall be provided to workers conducting monitoring and maintenance activities at the Landfill regarding potential hazards associated with the PV array including but not limited to electrical hazards.
7. **Health and Safety:** The Town and its contractor(s) are responsible to ensure all necessary precautions are taken to protect the health and safety of workers and the general public during both construction and maintenance of the solar array. Because landfill gas has been detected in soil-gas monitoring probes located around the landfill's perimeter, a copy of the site-specific health and safety plan for the construction of the solar array shall be submitted to MassDEP (for its files) prior to the beginning of any construction work which shall include protocols for monitoring of landfill gas (i.e. methane, hydrogen sulfide, etc.) as needed, protocols for modifying work practices if landfill gas is detected at the project site at levels deemed unsuitable, protocols for workers entering any potential enclosures, and protocols for responding to any landfill gas conditions.

8. **Construction Precautions:** All necessary precautions shall be taken to ensure that the proposed construction and maintenance work associated with the PV array does not damage the environmental monitoring network at the landfill. In order to prevent vehicle damage to the environmental monitoring systems, prior to the commencement of construction activities, environmental monitoring locations ZMW-1, 1B, 2, 3A & 3B, WS-3, 3A, 3B & 10 and SG-1, 9, 11, 12 & 13 shall be flagged for visibility, and permanently protected with a precast concrete manhole protective barrier as depicted in Figure 1 of the June 14, 2011 Supplemental response identified in Section I above. If any damage occurs to the above listed monitoring network components, the Town or its contractor(s) shall notify Lynne Welsh, Section Chief, MassDEP CERO within 24 hours and provide a written plan for repairs, including a schedule .

During the post-closure monitoring period, landfill gas has been detected in soil-gas monitoring probes located around the landfill's perimeter. This Permit requires that all installed subsurface utilities be designed to address the safety concerns (explosion, fire, asphyxiation hazard, etc.) associated with subsurface landfill gas soil-gas migration, and that any inverter/ transformer pad be designed not to create a potential fire safety hazard. Potential design features may include but are not limited to the installation of fully sealed conduits, explosion proof connections, and fittings. Utility trenches shall also be designed so they do not act as a conduit for landfill gas migration.

9. **Inverter Enclosure and Combustible Gas Alarm:** The plans referenced in Section I above propose pad mounted open air inverter stations with no enclosures. However, if enclosures are used around the inverters, each inverter enclosure shall have a hard-wired landfill gas monitor within the enclosure, fully operational at all times (with battery backup), which shall: be calibrated to a methane standard; have an audible alarm; and have a lighted beacon above the entrance door to the enclosure for alarm mode. At a minimum, the alarm shall be set to sound when the concentration of explosive gases exceeds 10% of the Lower Explosive Limit (LEL). The Town and/or its contractor(s) shall calibrate, maintain and monitor the permanent landfill gas monitoring device located within the inverter enclosures in accordance with the manufacturer's requirements. The Landfill Post-Closure Monitoring Plan (Plan) shall be amended to include the gas monitoring device's operational capability and shall be highlighted in periodic inspections required under the Plan.
10. **Transformer Pad and Interconnection Equipment:** A copy of the proposed final design for the transformer pad and any other electrical and protective switchgear (interconnection equipment) proposed on-site shall be submitted to MassDEP for its files. The Town and its contractor(s) are responsible to ensure that utilities/structures will not accumulate landfill gas during construction and operation of the project.

11. Landfill Gas Notification Requirements:

- a. As specified in solid waste management regulations at 310 CMR 19.132 (4) (g): Gas Monitoring,

"When, at any time, the concentration of explosive gasses exceeds 10% of the lower explosive limit (LEL) in any building, structure, or underground utility conduit, excluding gas control, gas recovery and leachate collection system components, the owner/operator shall:

1. take immediate action to protect human health and safety;
2. notify the Department within two hours of the finding; and
3. undertake the actions specified under 310 CMR 19.150: Landfill Assessment Requirements and 310 CMR 19.151: Corrective Action Requirements as required by the Department."

- b. Pursuant to 310 CMR 40.0321(1)(a), if at any time, monitoring detects the presence of any combustible gases at or in excess of 10% of the lower explosive limit at any location within a building or within any utility conduits on site or off-site, the Town shall notify the local fire department and MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section at 888-304-1133 within two (2) hours of the exceedance.

V. RIGHT OF APPEAL

1. **Review of Decision** - Pursuant to 310 CMR 19.037(4)(b), if the Applicant (Permittee) is aggrieved by MassDEP's decision to issue this Permit, it may within twenty-one (21) days of the date of issuance file a written request that the decision be deemed a provisional decision, and a written statement of the basis on which the Applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the decision shall be deemed a provisional decision with an effective date twenty-one (21) days after MassDEP's receipt of the request. Such a request shall reopen the administrative record, and MassDEP may rescind, supplement, modify, or reaffirm its decision. If MassDEP reaffirms its decision, the decision shall become a final Permit on the effective date. **Failure by an applicant to exercise the right provided in 310 CMR 19.037(4)(b) shall constitute a waiver of the applicant's right to appeal.**
2. **Right to Appeal** - Any person aggrieved by the issuance or denial of this Permit, 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, § 150A and M.G.L. c. 30A not later than thirty (30) days following the receipt of the final permit. 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 shall remain effective at the conclusion of the 30 day period.

3. **Notice of Action** - Any aggrieved person intending to appeal the issuance of this permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the file number [Transmittal No. X237658] and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of MassDEP and the Regional Director for the regional office that processed the permit application at least five (5) days prior to the filing of an appeal.

Office of General Counsel
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

and

Martin Suuberg, Regional Director
Massachusetts Department of Environmental Protection
627 Main Street
Worcester, MA 01608

No allegation shall be made in any judicial appeal of this permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a 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 environmental impact of the permitted activity.

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.

D. Lynne Welsh
Acting Section Chief
Solid Waste Management Program