



State of Maine  
Department of Environmental Protection  
Bureau of Remediation and Waste Management

## Applying for approval to install solar panels on a closed landfill

Any person proposing to install solar photovoltaic (PV) panels or other structures on a closed landfill must obtain a license from the department. See Maine Revised Statutes, Title 38, section 1306, subsection 1: “[i]t is unlawful for any person to establish, construct, alter or operate any waste facility without a permit issued by the department.”

In order to issue the license, the Maine Department of Environmental Protection (Department) must grant a variance from its landfill closure rules. This is because those rules, in chapter 401(5)(B)(5)(a), prohibit the establishment of structures within 100 feet of the solid waste boundary of the landfill. Applicants seeking approval to vary from this prohibition must present clear and convincing evidence that the proposed PV installation “is distinctive in some way that allows for compliance with State laws and the purpose and intent of the rules.”

The Department provides approval through two separate processes based on the licensing history of the landfill. If the landfill had a license to operate from the Department, the Department may approve the variance allowing PV installation through a Solid Waste Project Minor Revision. If the landfill operated without a license and instead closed under a Department closure order, the Department may approve the PV installation through a Closure Modification. Please contact Department Landfill Closure and Remediation Program Staff to determine which procedure is appropriate for your facility. Department staff will forward the appropriate form upon review. The current application fee and processing time are the same for each process and can be found here: <http://www.maine.gov/dep/feeschedule.pdf>

To apply for the required permit and variance, follow the instructions below:

1. Fill out the Department APPLICATION FOR APPROVAL OF A SOLID WASTE PROJECT MINOR REVISION or, in the case of closed landfills which operated without a license, fill out the Department APPLICATION FOR AN APPROVAL OF A CLOSURE MODIFICATION.
2. Prepare the following supporting information.
  - a) **Project description.:** Provide a description of the landfill (including its size in acres and the year it was closed and covered), the landfill cover system and proposed PV installation system.
  - b) **Site plan.** Provide a site plan showing the landfill property boundary, solid waste boundary, monitoring wells, buildings, roadways, fence lines and other pertinent features of the project site.
  - c) **PV system design.** Provide design plans and reports:
    - Describing , both narratively and with drawing(s), how the PV system will interface with the landfill cover system;

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- Detailing the utilities and the location of the utilities that will be installed to support connection of the PV system to the electric transmission grid, including combiner boxes, inverters, transformers and wiring; and
  - Describing the actions that will be taken to prepare the site for installation and operation of the PV system, including temporary and permanent access roads and construction laydown areas.
- d) **Landfill gas control.** Provide information demonstrating that the project will not create an unreasonable risk of exposure to landfill gas (LFG). The information to be provided should include the following:
- i. If the landfill has an engineered LFG management system:
    - A description of the existing LFG control system and assessment of its current effectiveness;
    - An assessment of the potential impacts of the proposed PV system on the LFG control system and a description of the steps that will be taken to preserve the integrity of the system, including any proposed alterations to the system;
    - A plan showing the existing LFG gas control features and any proposed changes to the LFG control system; and
    - A description of the safeguards that will be taken to prevent LFG buildup in utility conduits or any other structures associated with the PV project.
  - ii. If the landfill does not have an engineered LFG management system, provide an evaluation of the potential for LFG migration resulting from the construction and operation of the PV system. Describe the safeguards that will be taken to prevent LFG migration resulting from the construction and operation of the PV system.
- e) **Settlement and stability assessment.** Provide information demonstrating that the integrity and performance of the landfill cover system, including drainage and LFG systems, will be maintained under PV system loading and predicted settlement. The settlement and stability assessments required below shall be stamped by a Professional Engineer, licensed in the State of Maine. The information to be provided should include:
- A description of the existing waste mass, existing cover system topography and any existing settlement;
  - An assessment of the potential for differential settlement induced by the proposed PV system, including consideration of anticipated wind and snow loading;
  - An assessment of the stability of all proposed structures on the landfill cover system and description of any reinforcement measures required to install and maintain the structures; and

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- A description of the equipment required to construct the project and any construction equipment limitations necessary to protect the cover system.
- f) **Stormwater control.** Provide a plan showing existing stormwater control features and proposed changes to the landfill stormwater management system. Describe the existing stormwater management system and the steps that will be taken to ensure the system has the capacity to handle the predicted increase in runoff from the PV installation.
- g) **Erosion control plan.** Provide an erosion and sedimentation control plan for construction and operation of the project. The plan must be prepared in accordance with the *Maine Erosion and Sediment Control BMPs* (Maine Department of Environmental Protection, October 2016).
- h) **Inspection and maintenance.** Provide a monitoring and maintenance plan outlining the steps that will be taken to inspect and maintain the landfill cover system and appurtenant systems after the PV system is installed. The plan must specify who will be responsible for inspection, maintenance and repair of both the PV system and the landfill systems and must provide for the landfill surface to be mowed at least once annually.

The Inspection and Maintenance plan also must identify the steps that will be taken to control access to the PV system. The location of existing and proposed fencing must be shown on the project design plans. Fencing that penetrates the landfill cap is generally not acceptable.

- i) **Technical ability.** Provide evidence demonstrating that the applicant and its consultants have the technical ability to design and install the PV system. Identify who will be responsible for operation and maintenance of the system and provide information on their prior experience and training in the operation and maintenance of PV systems.
- j) **Financial ability.** Provide evidence demonstrating that funds are available to install, operate and maintain the panels while preserving the integrity of the landfill cover system and to restore the landfill to its prior condition when the PV system is decommissioned. A cost estimate must be provided which includes costs for engineering; construction; operation and maintenance over the anticipated lifespan of the PV system; and decommissioning.
- k) **Schedule.** Provide a project schedule that includes a pre-construction conference with the Municipality, Solar Array Partner(s), and the Department prior to initiation of on-site construction activities.
- l) **Solar Array Decommissioning.** Provide a statement that if the solar panels do not export power off the site for a period of two continuous years, then the Municipality will ensure that the solar panels are removed, and once the solar panels are removed from the Landfill, the Municipality will restore the Landfill's cover to its original condition.

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3. Send the application with all supporting information and a check for the application fee made payable to "Treasurer, State of Maine" to: DEP-BRWM, 17 SHS, Augusta ME 04333-0017 or pay by credit card through the Department's Credit Card Payment Portal. Check with Department staff for the fee amount. The application fee schedule is adjusted annually.

Although not required by Department rules, we also recommend that PUBLIC NOTICE of the proposed PV installation be published once in a newspaper circulated in the municipality where the landfill is located. A form for this notice is attached.

The notice should appear in the newspaper on or about the date the application is filed with the Department. A copy of the PUBLIC NOTICE should also be sent to the owners of abutting property at about the same time the notice is published in the newspaper.

Please contact the assigned Department project manager in the Landfill Closure and Remediation Program or Matt Young (207-215-7841, [matthew.r.young@maine.gov](mailto:matthew.r.young@maine.gov)) if you have questions at any point during the application preparation and review process.

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THIS FORM IS FOR USE IN NOTIFYING ABUTTING PROPERTY OWNERS AND  
PUBLISHING NOTICE IN THE LOCAL NEWSPAPER.

**NOTICE OF APPLICATION TO INSTALL SOLAR PANELS**

Please take notice that the (*Town, City*) of \_\_\_\_\_ has applied to the Maine Department of Environmental Protection (DEP) for approval to install solar photovoltaics on the closed municipal landfill on \_\_\_\_\_.  
*(landfill street address)*

To receive approval, the municipality must demonstrate that installation of the photovoltaics will be compatible with the landfill cover system, not create a nuisance, nor constitute a hazard to public health or welfare.

The application and supporting documents are available for inspection during normal working hours at the municipal office and at the DEP regional office,  
\_\_\_\_\_.  
*(insert regional office address and phone #)*

Interested parties are invited to submit written comments. To ensure consideration, comments must be received in writing within 30 days of publication of this notice. Address correspondence to:

Matthew Young, DEP-BRWM, 17 SHS, Augusta ME 04333  
email to: matthew.r.young@maine.gov  
ph (207) 215-7841