

**Agency of Natural Resources
Department of Environmental Conservation
Waste Management and Prevention Division
Solid Waste Management Program**

**Policy on
Constructing Solar Photovoltaics on Closed Solid Waste Landfills
February 2013
Amended July 2014
Amended February 2018**

Introduction:

Within Vermont there are more than 70 closed, administered solid waste landfills. These facilities are generally maintained by a private or public owner/operator under authority of a post-closure certification, or other authorization, issued by the Secretary of the Agency of Natural Resources (Agency), through the Solid Waste Management Program (Program). Recent widespread interest by Federal and State government, utilities, and investors in developing renewable energy sources has resulted in consideration of siting commercial solar photovoltaic (PV) projects on closed landfills across the country, including Vermont. The Program recognizes that given current market conditions PV projects on closed landfills could be a mutually beneficial situation for the investors, local utilities and landfill owners, as landfill end uses are generally limited, and revenue generated as a result of PV projects could be used to fund continued post-closure care.

Applicability:

This policy is applicable to all potential PV projects on closed solid waste landfills in Vermont, maintained under authority of a post-closure certification, administrative order, assurance of discontinuance, or in custodial care as recognized by the Agency. All recognized closed landfills have identified end uses, and a change to the identified end use requires prior written approval that will be conditioned in a new or amended post-closure certification or custodial care authorization.

General Performance Standard:

The construction, operation, or maintenance of any development upon a closed solid waste landfill shall not compromise the integrity of the landfill capping system, any landfill gas collection and removal system, leachate collection and removal system, surface water control system, environmental monitoring system, and access controls, or otherwise increase the environmental or public health and safety risk from the facility.

Other Considerations:

Development of a solar array on a closed landfill will likely increase the level of effort, and resources, needed to maintain the closed facility. Any increase in maintenance and associated costs that are anticipated to result from the proposed development must be accounted for and reflected in the post-closure plan and cost estimates for post-closure maintenance of the landfill, and in any financial responsibility or financial capability documents required to be included in the request for a new or amended facility certification or custodial care authorization.

If future site conditions are deemed to pose a threat to public health or safety, or the environment, the Secretary is authorized to require corrective actions to mitigate the threat. A corrective action may take many forms, depending on the nature and severity of the threat posed. A corrective action may not actually result in disruption of the operations of the PV project, but such disruption is a possibility that project proponents should be aware of.

Submittal Requirements for PV Project Approval:

Regulated landfills must revise their Post-Closure Plans to accommodate PV projects and submit those revisions to the Program for review and approval prior to the start of construction. If the landfill is currently regulated under a court order (e.g., Assurance of Discontinuance or Order) this will require obtaining a post-closure certification from the Program as well. If the landfill has transitioned into custodial care, the revisions must be made to the end-use plan. The revisions to the post-closure documentation should, at a minimum, contain sufficient information to allow the Agency to find conformance with the general performance standard described above. This includes information regarding:

- Site plan for the solar array, to include road construction and vehicular traffic patterns (designed to minimized capping system disturbance)
- Anchoring system details - ground mounted, on a slab, shallow footing, augured, etc.
- Panel mounting systems
- Potential differential settlement considerations
- Gas venting considerations
- Cap maintenance considerations
- Surface water runoff, and increased erosion potential
- Wind, frost, and snow loading
- Site security, including fence anchoring
- Protection of other facility appurtenances.
- Construction specific procedures and considerations
- Update to the financial document if applicable

For additional technical resources, see USEPA's publication *Best Practices for Siting Solar Photovoltaics on Municipal Solid Waste Landfills*.

Conformance with PUC Rule 5.100:

On July 1, 2017, Vermont Public Utility Commission (PUC) Rule 5.100, Rule Pertaining to Construction and Operation of Net-Metering Systems, became effective. The Rule encourages siting PV projects on "preferred sites." Among the preferred sites defined in PUC Rule 5.100 is, "(5) A sanitary landfill as defined in 10 V.S.A. § 6602, provided that the Secretary of Natural Resources certifies that the land constitutes such a landfill and is suitable for the development of the plant." According to 10 V.S.A. § 6602:

"Sanitary landfill" means a land disposal site employing an engineered method of disposing of solid waste on land in a manner that minimizes environmental hazards by spreading the solid waste in thin layers, compacting the solid waste to the smallest practical volume, and applying and compacting cover material at the end of each operating day.

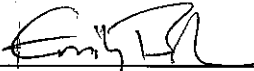
The Secretary will certify the land constitutes a sanitary landfill if the PV project is proposed to be located on the landfill cap (i.e., the area once used to spread, compact, and cover solid waste). For the Secretary to certify that the land is also suitable for development of the plant, the landfill must have been closed in accordance with an Agency-approved closure plan and been adequately maintained since closure under current authority of facility certification, order, assurance, or custodial care authorization. Requests for certification as a landfill preferred site must be submitted in writing to the Program and should include information sufficient to indicate the PV project would be located on the landfill cap and the host landfill has been closed and maintained as described above.

The Program will issue a letter to the project developer and facility owner/operator that certifies the proposed PV project is sited at a sanitary landfill. The certification letter should be included in the application for a Certificate of Public Good (CPG) from the PUC for the PV project.

Program Approval of PV Projects:

Program approval for the PV project, if granted, will be conditioned in the post-closure certification of the facility or as an approved change in end use if the facility is in custodial care. The Program will request the PUC make Program authorization of the PV project a condition of the CPG if such authorization has not been granted by the Program prior to CPG issuance. The Program may also request a condition in the CPG that requires the CPG holder to obtain Program approval prior to decommissioning the PV project.

Program approval would not provide authorization of any activity in lieu of any approvals that may be required under 30 V.S.A. §248, Act 250, or other state or local laws which may also govern.



Emily Boedecker, Commissioner
Department of Environmental Conservation

07/15/10

Date

