



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

December 27, 2011

Robert Duncanson, Director of Health and Environment
Town of Chatham
549 Main Street
Chatham, Massachusetts 02633

and

Eric T. McLean, P.E.
American Capital Energy
15 Tyngsboro Road, Suite 4A
North Chelmsford, Massachusetts 01863

RE: Approval with Conditions
Application for: BWP SW 36 Post-Closure Use - Major
Solar Photovoltaic Array
Transmittal #: X238613

AT: Chatham Landfill
97 Sam Ryder Road
Chatham, Massachusetts
Facility ID#: 132272, Regulated Object#: 39153

Dear Mr. Duncanson and Mr. McLean:

The Massachusetts Department of Environmental Protection, Solid Waste Management Section (MassDEP), has completed its Administrative and Technical review of the referenced Post-Closure Use permit application (Application) for the Chatham landfill. The Application was prepared and submitted on behalf of the Town of Chatham and American Capital Energy (Applicants) by Weston & Sampson Engineers, Incorporated (Weston or Engineer) of Peabody, Massachusetts.

MassDEP has determined the Application is administratively and technically complete and hereby **Approves** the Post-Closure Use of the Chatham landfill for a 1.9 megawatt (MW) solar photovoltaic (PV) array subject to conditions as specified herein.

I. SUBMITTALS:

MassDEP has reviewed the Application pursuant to 310 CMR 19.000: *Solid Waste Regulations*, 310 CMR 19.143: *Post-Closure Use of Landfills* and MassDEP's *Landfill Technical Guidance Manual*, May 1997 (Manual). The Application consists of the following:

- A. The permit transmittal, application forms for Post-Closure Use - Major (BWP SW 36), narrative describing the proposed use, engineering calculations, six engineering drawings and documents received by MassDEP on October 7, 2011.
- B. Supplemental Application information, prepared by Weston & Sampson, consisting of a report dated December 8, 2011, engineering drawings, engineering calculations, and documents received by MassDEP on December 12, 2011.
- C. A letter report dated December 16, 2011, prepared by Weston & Sampson and received by MassDEP on December 16, 2011.

The Application is signed and stamped by Duane C. Himes, Massachusetts Professional Engineer No. 32336.

II. SITE DESCRIPTION & INVESTIGATIONS:

The Chatham landfill is located on an approximately 30 acre parcel of site-assigned land located at 97 Sam Ryder Road, Chatham, Massachusetts (Site). Two solid waste disposal areas are located on the Site: the 16.5 acre main landfill (Landfill) and the ¼ acre animal disposal area. The closed unlined main Landfill occupies the western portion of the Site and the closed unlined 1/4 acre animal disposal area is located in the northwest corner of the Site. The Town's transfer station is located adjacent to the Landfill on the eastern portion of the Site. The Site is bordered by Middle Road to the north, by woods and Water Pollution Control Facility (WPCF) effluent infiltration beds to the west, by the Cape Cod Rail Trail to the south and by Sam Ryder Road to the east. Operation of the 16.5 acre Main Landfill commenced in about 1936 and ceased in December 1994.

Existing Final Cover System Design: On February 3, 1997, Weston & Sampson submitted a Corrective Action Design (CAD) application. On July 7, 1998, MassDEP approved the CAD application for the Landfill. On January 29, 1998, Weston & Sampson submitted a Post-Closure Use Application proposing construction of a concrete pad over a portion of the Landfill for the handling of recyclable materials. The Landfill final cap construction, including the concrete pad, was completed in October 1998.

The final cover system for the Landfill was constructed with a minimum top slope of 5% and side-slopes not exceeding 3:1. The final cover system includes from bottom to top:

- a 6-inch sub-grade soil layer;
- a 6-inch gas venting layer with a hydraulic conductivity “k” $\geq 1 \times 10^{-2}$ cm/sec.;
- a 40-mil high-density polyethylene (HDPE) geomembrane barrier layer (FML);

- a 12-inch sand drainage layer with a “k” $\geq 1 \times 10^{-2}$ cm/sec.; and
- an 8-inch thick layer of vegetated topsoil (organic content $\geq 6\%$).

On November 6, 1998, MassDEP received a Closure Certification Report prepared by Weston & Sampson Engineers, Incorporated. On December 27, 2011, MassDEP issued an approval with conditions for the construction certification report.

Passive Gas Venting System: The gas venting system was constructed with 15 passive gas vents (GV-1 through GV-15) installed across the Landfill. The passive gas vents consist of 6-inch diameter polyvinyl chloride (PVC) pipes set in 24-inch diameter holes drilled to the bottom of waste or to the groundwater table whichever was higher and backfilled with ¾-inch crushed stone. The passive gas vents penetrate the final cover system at booted fittings and discharge the landfill gas to the atmosphere.

Post-Closure Environmental Monitoring: On August 28, 2009, MassDEP approved revisions to the Landfill's post closure monitoring plan. Post-closure environmental monitoring (groundwater, surface water and soil-gas monitoring) is currently conducted by the Town. The Applicants have not proposed any changes to the post-closure environmental monitoring plan based on the proposed post-closure use.

III. POST-CLOSURE USE PROPOSAL SUMMARY:

American Capital Energy (ACE or Developer), through an agreement with the Town of Chatham (Town) and Cape and Vineyard Electrical Cooperative, Incorporated (CVEC), proposes to develop 1.9 MW solar photovoltaic installation on the Landfill. Hereinafter, the Town of Chatham, American Capital Energy and all construction and maintenance personnel associated with the Town's Landfill shall be referred to as the "Applicants' Contractors". ACE in conjunction with the Town is proposing to construct and maintain a PV array on the capped Landfill, consisting of the following components:

- Constructing of an on Landfill access road and additional temporary access roads, as needed;
- Approximately 1,660 precast concrete ballast (70 inches x 40 inches by 14 inches thick) will be placed within the topsoil layer of the final cover system;
- Approximately 800 PV panel support racks (SunLink Groundmount System) installed on the concrete ballasts;
- Approximately 7,200 PV modules (Yingli Solar Modules) will be placed on the PV panel support racks;
- Three concrete pads will be installed on the sand drainage layer of the final cover system, which will support electrical equipment, including inverters, transformers, switchboards and switchgear;
- Switching gear and a recording meter (25KV switch and meter) will be mounted on one concrete pad on the sand drainage layer of the final cover system;
- The photovoltaic panel support racks will be interconnected using above grade cables and underground cables. The cable conduits will be above grade mounted on the panel racks,

and mounted on above ground conduit (block assemblies) supports, except for cables traversing the Landfill temporary access roads;

- The output from the PV array will be transported via electrical cables above grade on conduit supports and will transition to overhead wiring for transmission of electricity, via several new utility poles, to the existing overhead NSTA primary system located on the Cape Cod rail trail, to the south of the Site.

The existing access road that runs along the edge of the animal disposal area will be extended from the northwestern end of the access road, at the toe the slope, in a south-easterly direction up to the ridge line of the Landfill. The permanent access road will be constructed in accordance with the GSE Lining Technology LLC design manual for soil thicknesses over liners to maintain the required protection of the FML. This permanent access road extension will be constructed by excavating the 8 inch topsoil layer and placing a layer of woven geotextile on top of the sand drainage layer and up the sides of the exposed topsoil layer. This area will be backfilled and compacted with dense graded crushed stone until it is level with the existing grade. Then an additional 18 inches of dense graded crushed stone will be installed above the newly created access road to ensure that there is at least 3 feet of material above the FML.

Temporary access roads will be constructed, if needed, during construction to minimize impact to the Landfill final cover system. The temporary access roads will be constructed by placement of a woven filter fabric over the vegetative support layer, and the addition of 18 inches of compacted dense graded crushed stone. The temporary access roads will be removed within six months of completion of construction and the road areas will be restored to meet the specification of the cover system.

Most of the array will be on areas of the Landfill with a slope of less than 5% (2.9 degrees) but the edges may expand into areas where there is up to a 15% (8.5 degrees) slope.

The solar array will utilize PV modules (3.25-foot by 5.42-foot) mounted on galvanized steel, aluminum or stainless steel framed racks attached to the precast concrete ballasts. The racking system will hold the panels at a fixed tilt of 20 degrees from horizontal. The PV array will use monocrystalline PV modules mounted on racks consisting of nine modules in a single row (panel layout 1 x 9) with two ballasts per rack. Each panel support rack or assembly will utilize a fully ballasted mounting system with no penetrations of the low permeability layer of the final cover system. The modules and the associated racking will be approximately 3 feet high in the front and 5 feet high in the rear. The rows of solar panels will be oriented east-west with a typical layout of 12 feet between each row (north-south measurement). The Landfill contours are not aligned with the east-west axis of the racks therefore the rows will be at a slight cross-slope angle.

The existing elevation and grade of the Landfill will not be altered. The proposed design will impact limited portions of the vegetative layer of the final cover system. The impacts result from: construction of a permanent access road on the Landfill; installation of rack ballasts; installation of three inverter/transformer concrete pads and one switchgear and meter pad, and installation of above grade electrical wiring conduit supports.

The panels will be supported by PV racks on concrete ballasts. To install the precast concrete ballast, the vegetation and organic topsoil below each of the array ballast will be removed. The excavations will not extend to a depth beyond 8 inches, which is the average thickness of the topsoil layer. After excavating, a layer of geotextile will be placed onto the existing final cover systems sand drainage layer and then a layer of gravel will be placed and compacted in preparation for the placement of the concrete ballasts. The gravel will be installed such that the maximum slope on the concrete ballasts will be 5% or less. Once this is accomplished, the vegetative cover surrounding each ballast will be restored.

The support racks will house all wiring between the modules. The electrical transmission wiring will run within cable conduits above grade, mounted on the rack assemblies where applicable, or mounted on conduit supports (block assemblies) above grade to keep the cables off the ground surface. Only at temporary road crossings will the electrical wiring run below ground. The electrical wiring that will be placed below these temporary roads will be placed in 4 inch fiberglass reinforced epoxy (FRE) cable conduits, at a minimum depth of 1 foot below the road surface. All underground cables will be sealed, have gas tight fittings and will include flexible connections at transition points. Conduits will not enter the concrete pads from beneath the pads but will surface and run into the side of the inverter/transformers and other equipment with the use of flexible gas tight connections. There are no subsurface penetrations at any of the electrical equipment concrete pads (e.g. inverter/transformer, and switchgear). All electrical work will be designed for the most recent version of the Massachusetts Electrical Code (MEC) which includes and incorporates the requirements of the National Electric Code (NEC). Prior to construction, an electrical permit will be obtained from the local building department official, and the project will incorporate any additional electrical requirements stipulated by the building department official.

The concrete ballasts will be precast concrete slabs and will be brought into the site via pickup trucks or lightweight all-terrain forklifts. The three concrete electrical equipment pads for the transformers/inverters will either be precast offsite or formed on site. The area beneath the concrete electrical pad will be prepared by excavating the 8 inch topsoil layer and backfilling with 8 inches of crushed stone or compacted gravel (**refer to condition #11**).

A single concrete pad mounted disconnect switch and meter will be installed on the final cover system. The area beneath the concrete pad will be prepared in a similar fashion to the inverter/transformer pad by excavating the topsoil and backfilling with crushed stone or compacted gravel in the area where concrete is to be placed. Final concrete pad design (dimensions) for both the inverter/transformer and the switchgear will be determined based on the final equipment selection and approval by electrical inspector and/or utility representative (**refer to condition #13**).

Geotechnical Evaluation: The Application included a geotechnical evaluation for the installation of the PV array and supporting structures on the final cover system.

The Application included an analysis of the foundations for the PV array that will bear directly on the final cover system and has considered the dead load, snow load and wind loading. The results of the geotechnical evaluation are as follows;

- The PV modules, panel support racks, and ballasts do not exceed loading criteria for the Landfill cover system.
- The electrical equipment concrete pads (inverter/transformer pad) do not exceed the recommended loading criteria for the Landfill cover system.
- The PV array will not cause adverse Landfill settlement.
- The Engineer determined the potential vehicle loading on the proposed permanent and temporary access roads would not produce unacceptable loading stresses to the Landfill cover system.
- The PV array is stable on a 15% slope.
- The 4 inch FRE electrical cables conduit buried under the temporary access road and the road base soil surrounding the conduit will support the applied vehicle loads.

The anticipated maximum loading scenario racking system (ballasts, panel support racks, and PV modules) and the electrical equipment concrete pad on the Landfill surface will result in bearing pressure ranges between 203 and 379 pounds per square foot. The bearing pressure ranges are all less than allowable 1,000 pounds per square foot (less than 7 psi).

The estimated settlement resulting from the static loads increase of the PV array ballast was 0.57 inches. The Engineer has stated the FML layer of the final cover system can undergo this distortion without impacting the integrity of the liner.

A sliding stability evaluation was performed for the PV ballasts. A maximum slope of 15% was evaluated. The Engineer determined the factor of safety for sliding of the PV ballasts on the underlying soils was approximately 1.5 on a 15% slope.

Storm Water: The Engineer performed storm water calculations using Hydro CAD modeling software (TR-20) analysis for the 24-hour, 25 year storm and under the 24-hour, 100 year storm. The PV array will modify run-off characteristics by the addition of impervious surfaces (i.e. ballasts and concrete pads) which represent less than 5% of the closed Landfill surface. The capacity of various elements of the Landfill storm water conveyance system were reviewed including, swales, stoned line ditches, storm water piping and detention basins. The Applicants' Engineer concluded there will be adequate capacity to properly manage the post-closure development at the Landfill and that there is no need to modify the existing storm water management system.

Post Closure and Post-Closure Use Operations and Maintenance: The Town currently implements the Landfill's post closure monitoring and maintenance plan. Post closure environmental monitoring (groundwater, surface water and soil gas monitoring) is currently conducted by the Town in accordance with the permit application approved by MassDEP on August 28, 2009 (transmittal #X228456). Operations and maintenance for the Landfill for the area where the PV array is located up to a distance of 10 feet away from the edge of the PV array, including aboveground conduits, is to be the responsibility of the project Developer: ACE. The Town will maintain the remainder of the Landfill outside the 10 foot buffer around the PV array (**refer to condition #1**).

There are no proposed changes to the post closure operation and maintenance plan for the area to be maintained by the Town and not used for the PV array. Currently, the Landfill is mowed at least annually with annual cover system inspections by the Town.

A post-closure use operation and maintenance plan for the post-closure use area used for the PV array was submitted with the Application. The Developer proposes to provide: site security; electrical maintenance; module cleaning; and final cover system maintenance including but not limited to, mowing, undergrowth control, pest control, and erosion control. The Developer proposes to conduct monthly inspections to check the final cover system for erosion and changes in vegetative growth following the first year of construction of the PV array (**refer to condition # 15**).

The Application included a Health and Safety Plan for operation and maintenance activities to be performed by employees at the Chatham landfill solar project for the operation and maintenance of the proposed PV array. The Application did not include a health and safety plan for the construction of the proposed PV array (**refer to condition #7**).

Site Security: There are two accesses to the Landfill with one being from Sam Ryder Road and the other from the Chatham WPCF. Both entrances are gated. There is a fence around the Chatham WPCF which borders the Site to the west. The existing chain link fence located between the Cape Cod Rail Trail and the Landfill ties into a gate at the WPCF. If unauthorized access proves to be a problem, additional security measures will be considered including additional fencing and closed-circuit TV cameras for monitoring the Site.

Decommissioning Plan: Decommissioning and site restoration will include dismantling and removal of all panels and supporting equipment, transformers, overhead cables and foundations and restoration of the roads, and modules sites to the same physical condition that existed immediately before construction of the PV array.

IV. PERMIT DECISION:

MassDEP, having determined the information in the Application is satisfactory and in accordance with its authority granted pursuant to M.G.L. c.111, s. 150A, and 310 CMR 19.000, hereby **APPROVES** the Post-Closure Use of the Chatham Landfill for a Solar Photovoltaic Array subject to the conditions identified herein.

V. GENERAL PERMIT CONDITIONS:

1. Permit Limitations: The issuance of this approval is limited to the proposed Solar Photovoltaic Array at the Chatham landfill as detailed in the Application and does not relieve the Applicants from the responsibility to comply with all other regulatory or permitting requirements. Post-Closure Use construction shall proceed in complete compliance with the approved plans, MassDEP's regulations and requirements, the Manual or as required by this Approval. This approval does not relieve the Town, as the owner of the Landfill, from its responsibility to comply with all post closure monitoring and maintenance requirements for the entire Landfill. There shall be no deviation from this Approval without prior consent from MassDEP.

MassDEP shall be consulted prior to any deviation from the approved design. MassDEP may require a permit modification application for significant design modifications.

2. Regulatory Compliance: The Applicants, Engineers and Applicants' Contractors shall fully comply with all applicable local, state and federal laws, regulations and policies, by-laws, ordinances and agreements. This includes but is not limited to, 310 CMR 19.142: *Post-Closure Requirements*, 310 CMR 19.143: *Post-Closure Use of Landfills*, and 310 CMR 19.043: *Standard Conditions*. Applicable federal regulations include, but are not limited to, 29 CFR Part 1910, OSHA standards governing employee health and safety in the workplace and all applicable local, state and federal electrical codes and permits, including National Electrical Code (NEC), 2011 Edition, Article 690- "Solar Photovoltaic (PV) Systems".
3. Inspection and Repair of Settlement Areas: Prior to construction of the PV array, any suspect settlement areas on the Landfill project area shall be surveyed to determine the lowest spot. The surrounding area should be then surveyed to find the "relief point" defined as the lowest surrounding area where ponded water would flow off the cap. The elevation difference is defined as the "pond value". Minor settlement shall be defined as less than a 12 inch pond value. Any Landfill project area that has undergone minor settlement shall be corrected by the placement of additional vegetative support soil to promote runoff and the area shall be reseeded. Any area repaired should be surveyed and the location marked on a plan with the pond value. Any future settlement should be recorded cumulatively. If/when the total settlement reaches 12-inches, the area will be considered to have suffered major settlement and appropriate repairs to eliminate ponding shall be performed.

Major settlement is defined as a pond value of 12 inches or more. When this occurs, the final cover system must be repaired to prevent water from ponding above the low permeability layer. The Applicants may either:

1. Strip off the final cover soils above the low permeability layer, inspect and repair the low permeability layer if/as necessary, place low permeability soil as necessary to promote runoff, replace final cover soils; or
2. Expose the low permeability soil or geomembrane in a trench around the perimeter of the settled area. Fill the area with soil to form slopes promoting runoff. Cap the area with a new low permeability membrane, geosynthetic clay liner (GCL), or low permeability soil layer that ties into the existing low permeability layer at the identified perimeter. Place new drainage sand and vegetative support material over the new cap area.

Any proposal to repair minor settlement may be done as routine maintenance, provided that the Applicants report the settlement to MassDEP and state their intent to perform repairs and provides MassDEP with final survey results and a summary write up.

Any proposal to do major settlement repair must be submitted within a Corrective Action Design (BWP SW 25) permit application since disruption of the final cover system will take place and repair details must be submitted and approved.

4. Notification of Construction: The Applicants shall notify MassDEP in writing (e-mail is acceptable) when the post-closure use construction commences and is completed.
5. Oversight and 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 at the Landfill. Within **seven (7) months** of completing the installation of solar photovoltaic array, MassDEP shall be provided with a certification report. The report shall be signed and stamped by a Massachusetts-registered professional engineer and include, at a minimum, written certification from the supervising engineer that the project was performed in accordance with MassDEP regulations, requirements and the approved Post-Closure Use permit application. At a minimum, the report shall include as-built drawings depicting all pertinent site features, equipment used etc.
6. Preconstruction Work: Prior to commencement of construction activities all landfill gas passive vents, soil-gas monitoring wells, groundwater monitoring wells and other existing above ground structures on 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 area.
7. Health and Safety: The Applicants, Engineers and Applicants' Contractors are responsible to ensure all necessary precautions are taken to protect the health and safety of workers and the general public during both the construction phase and during the operation and maintenance phase of the post-closure use.

A copy of the site specific health and safety plan for the post-closure use CONSTRUCTION phase, shall be submitted to MassDEP (for its files) prior to the beginning of any construction work. The health and safety plan shall include as a minimum;

- 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 levels deemed unsuitable.
8. Vehicles Operating on the Landfill Final Cover System: Vehicles operating on the Landfill final cover system shall only operate on the designated permanent and temporary access roads, except for low-pressure construction equipment (with ground pressures of **7 psi** or less) in accordance with the remaining conditions of this permit. Low-pressure construction equipment operating off the access road shall limit turning on the vegetative support layer as much as possible. If MassDEP determines the use of excavation equipment is creating the potential for damage to the FML, the usage of such equipment shall immediately cease upon notification by MassDEP. All operators of the vehicles entering the final cover system area shall be clearly instructed by the on-site engineer and/or the contractor of the requirements of this permit prior to arrival, to avoid damage to the Landfill final cover system components. A list of low ground pressure equipment used and the pressure rating of each vehicle shall be indicated in the certification report required in condition #5.

9. Permanent and Temporary Roads and Low Ground Pressure Equipment: Low ground pressure equipment shall not access the final cover system from permanent and temporary roads where the transition will result in excessive pressure and wear on the Landfill vegetative service. The on-site engineer may construct ramps as necessary.
10. Construction Precautions: All necessary precautions shall be taken to protect the Landfill storm water control system, environmental monitoring network and the Landfill gas vents. All operators of vehicles entering the area should be clearly instructed by the on-site engineer and/or the Applicants' Contractor of the permit requirements to avoid damage to the Landfill components. The on-site engineer shall observe the extent of each excavation performed on the Landfill cover system. If any damage occurs to the any Landfill components, the Engineer shall notify MassDEP within 24 hours and provide a written plan with a schedule for repairs.
11. Integrity of the Final Cover System: All disturbances of the Landfill shall be limited to the proposed excavations and installations as depicted and described within the Application and approved plans. Excavations shall be limited to the topsoil layer. No excavations shall penetrate the sand drainage layer during construction, including staking for concrete forms, or during operation and maintenance of the PV array without written approval by MassDEP. The Engineer and Applicants' Contractors shall ensure that vehicles operating on the Landfill surface do not compromise the integrity of the Landfill final cover system.
12. Personnel Training: The Applicants, Engineers and Applicants' Contractors shall instruct all personnel regarding the potential hazards associated with landfill gas and shall give on-the-job training involving in any activity authorized by this permit. Such instruction and on-the-job training shall teach personnel how to comply with the conditions of the permit to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare or the environment.
13. Proposed Inverter/Transformer Pad (PowerStation) and Interconnection Equipment: The Applicants stated within the permit application that manufacturers "cut sheets" for the electrical equipment were included in Appendix B for informational purposes only and were only representative of equipment that is proposed. Final equipment selection may vary based on availability and other factors at the time of construction.

If the Applicants propose to change the electrical equipment a copy of the final design for the inverter/transformer pad and any other electrical pads and protective switchgear (interconnection equipment) proposed on-site shall be submitted to MassDEP for review and approval. The Applicant, Engineers and Applicants' Contractors are responsible to ensure that utilities/structures will not accumulate landfill gas during construction and operation. There shall be no penetrations (utility, conduits or other) at the base of any concrete pads or foundations. There shall be no penetration of any kind of the impermeable layer of the final cover system.

14. Landfill Gas Notification Requirements:

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

"When, at any time, the concentration of explosive gases exceeds 10% of the lower explosive limit (LEL) in any building, structure, or underground utility conduits, 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 findings; and*
- 3. undertake the actions specified under 310 CMR 19.150, Landfill Assessment and 310 CMR 19.151: Corrective Action, as required by the Department."*

- b. 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 MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2714 within two (2) hours of the exceedance as per 310 CMR 40.0321(1) (a) of the regulations.

15. Post-closure Use Operation and Maintenance Plan: During the first year after completion of construction of the PV array, inspections of the Landfill final cover system shall be performed on a monthly basis. Monthly inspection reports shall be submitted to MassDEP within **fourteen (14) days** of completion. Following the first year of operation of the PV array, and if no problems have been documented, inspections of the Landfill shall be performed on a quarterly basis and shall be submitted to MassDEP within **fourteen (14) days** of completion. Pursuant to 310 CMR 19.142(6) inspections shall be conducted by a third-party consulting Massachusetts Registered Professional Engineer, or other qualified solid waste professional. The Applicants, Engineers and Applicants' Contractors shall monitor the effectiveness of the storm water management system which should include; swales, structures and any and all conveyance systems. MassDEP shall be consulted prior to any deviation from the approved storm water design. MassDEP may require a permit modification application for significant design modifications. Any erosion, settlement, security problems or other issues observed at the Landfill shall be reported to MassDEP and repaired immediately.
16. Entries and Inspections: In accordance with 310 CMR 19.043: *Standard Conditions*, MassDEP and its agents and employees shall have the right 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.
17. Reservation of Rights: MassDEP reserves the right to require additional assessment or action, as deemed necessary to protect and maintain an environment free from objectionable nuisance conditions, dangers or threats to public health, safety and the environment. MassDEP reserves all rights to suspend, modify or rescind this permit if it determines the solar array compromises the integrity of the final cover system and/or results in a threat to public health, safety or the environment.

This approval pertains only to the Solid Waste Management aspects of the proposal does not negate the responsibility 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 the owners or otherwise legally responsible parties from any other applicable laws, statutes or regulations now or in the future.

RIGHT OF APPEAL

Right to Appeal – This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.037: Review Procedures for Permit Modifications, Permit Renewals and other Approvals, of the “Solid Waste Management Regulations”. Pursuant to 310 CMR 19.037(5), any person aggrieved by the issuance of this determination 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 receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such an appeal shall be governed by the provisions of M.G.L. c. 30A. 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.

Notice of Appeal - Any aggrieved person intending to appeal a grant of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the Department transmittal number X238613 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 the Department and the Regional Director for the regional office which processed the permit application at least five days prior to the filing of an appeal.

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

David Johnston, Regional Director
Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a 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.

Please direct any questions regarding this matter to me at (508) 946-2833 or to Mark Dakers at (508) 946-2847, or Dan Connick (508) 946-2884 or write to the letterhead address.

Very truly yours,

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.

David B. Ellis, Chief
Solid Waste Management Section

E/MD/rr

energy/Chatham/post closure use Chatham 122711.doc

ec: Chatham Board of Health, Robert Duncanson
rduncanson@chatham-ma.gov

Chatham building inspector, Jeffrey McCarty
jmccarty@chatham-ma.gov

American Capital Energy, Eric McLean, PE
emclean@americancapitalenergy.com

Cape & Vineyard Electric Cooperative, Inc., Ron Collins
rcollins@cvecinc.org

Renewable Energy Development Partners, LLC, Hank Ouimet
houimet@redpllc.com

Weston & Sampson, Duane Himes, P.E.
himesd@wseinc.com

DOER, Seth Pickering
Seth.Pickering@state.ma.us

DEP-SERO
ATTN: J. Viveiros
L. Carlson

DEP-Boston
ATTN: J. Doucett
P. Emond
S. Weinstein
C. Finneran