

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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### VIA ELECTRONIC MAIL

May 13, 2019

TO: Parties and Intervenors

FROM: Melanie Bachman, Executive Director *MAB*

RE: **PETITION NO. 1367** – CP Middletown Solar I, LLC and CP Middletown Solar II, LLC, petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.0-megawatt AC solar photovoltaic electric generating facility and a 0.986-megawatt solar photovoltaic electric generating facility on approximately 30 acres comprised of six abutting parcels located northeast of the intersection of Higby Road and Meriden Road (Route 66), west of Ballfall Road (Route 217) and south of Sisk Street in Middlefield and Middletown, Connecticut, and associated electrical interconnection.

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Comments have been received from the Connecticut Department of Energy and Environmental Protection, dated May 10, 2019. A copy of the comments is attached for your review.

MB/MP/er

c: Council Members



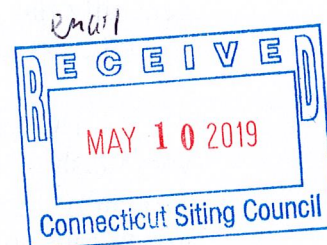
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Affirmative Action/Equal Opportunity Employer

May 10, 2019

Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051



RE: 1.0-MW and 0.986-MW Photo-voltaic generating facilities  
Citrine Power, LLC  
Middletown and Middlefield, Connecticut  
Petition No. 1367

Dear Members of the Connecticut Siting Council:

Staff of this department have reviewed the above-referenced petition for declaratory ruling that no Certificate of Environmental Compatibility and Public Need will be required for the construction 1.0-MW and 0.986-MW photo-voltaic generating facilities north of Route 66 in Middlefield and Middletown. A field review of the site was conducted on April 30, 2019. Based on these efforts, the following comments are offered to the Council for your use in this proceeding.

Citrine Power proposes to construct two functionally-separate solar facilities totaling 6,984 panels on two historically agricultural fields north of Route 66 and east of an Eversource transmission line. The site is bisected in an east-west direction by the Middletown-Middlefield town line, and north-south by a row of trees separating the two fields. An existing, very modest unpaved access road extending northward from a seasonal farm stand on Route 66 provides access to the site but rapidly peters out after entering the site.

The output from one of the two solar facilities will be subject to a virtual net metering agreement. The virtual net metering program helps municipalities reduce their electricity costs by allowing credits created through Class I renewable generation to be applied to municipal electric bills for meters that aren't co-located with the generation. This program is one of a suite of policy tools to develop clean generation to help the state meet its economy-wide greenhouse gas emissions reduction targets established in Section 22a-200a to the General Statutes.

#### Site Description

With the exception of clearing that may be necessary to improve the access road and to remove the one windrow of trees between the two fields, the project footprint portion of the site is fully cleared. The vegetative cover on the site, consisting of pasture grasses

and an ample representation of multiflora rose which is kept to a low height by periodic mowing/haying, is very well established. Of the two fields which would host the solar panels, the western one has a gentle southerly slope in its northern half and approximates level in its southern half. The eastern field slopes moderately from its high point in its northwest corner, descending south and east. Like the western field, its southern half is generally flat. The single mature tree mentioned in the petition as needing to be removed from the eastern field was not readily apparent.

Even in view of the ample recent rains preceding the site review, the fields were very mushy and poorly drained, with numerous small pockets of standing water. This was especially true of the hill in the northwest corner of the eastern field. Perhaps the impervious soil layers which led to the site's wetlands being described in the petition as perched wetlands may extend, at least in some areas, to the cleared portions of the site. This might explain the amount of surface water present on the hill in the eastern field.

During the approximately 2 ½ hour DEEP site visit, a Canada goose, a tom turkey, a pair of mallards and a red-wing blackbird were observed on the site. The presence of three deer stands along the western edge of the western field and one along the eastern edge of the eastern field attest to the ample deer visitation on the site. According to the landowner of the property immediately north of the project site, coyotes and bobcats are also common on the project property. That landowner also said that the host property formerly participated in USDA's Wildlife Habitat Incentives Program (WHIP).

The project site is visually well buffered from its surrounding properties with two exceptions: the commercial development along the north side of Route 66 and the three homes at the end of Nutmeg Court which are visible from the northern end of the eastern field. These homes are at 90, 100, and 101 Nutmeg Court. The home at 100 Nutmeg Court is visually prominent from the northern portion of the eastern field and possesses a large deck which looks directly southward toward the solar farm site. Some coniferous screening may be in order along this boundary of the project site. To add to the wildlife count during the field visit, a hen turkey strutted across the front lawn of the home at 101 Nutmeg Court during the site visit.

#### Stormwater Management Permit

According to page 16 of the petition, the amount of ground disturbance from the project will be limited to 0.95 acres and, therefore, the project will not require a DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activities. The petition assumedly bases this determination on a summation of the cross-sectional area of each of the individual racking posts driven into the ground with perhaps some component due to improvements to the access road. DEEP considers the entire 8.7-acre footprint of the project to be disturbed area, both from the actual placement of the racks, cables, inverters, concrete pads and access road and also from the construction activities which will be necessary to put these project components in place. This is consistent with past practice on all previous solar farms as well as on all construction

projects. Therefore, the petitioner should contact Neal Williams of the DEEP Stormwater Program at (860) 424-3356 or at [neal.williams@ct.gov](mailto:neal.williams@ct.gov) in regard to the project's registration submittal under the Stormwater General Permit.

As with previous DEEP comments to the Council for solar farms, attached to these comments is the guidance document *Stormwater Management at Solar Farm Construction Projects*, dated September 8, 2017.

#### Natural Diversity Data Base

Appendix B of Attachment 10 of the petition contains a letter of February 8, 2019 from DEEP's Natural Diversity Data Base to the petitioner specifying the recommended protection strategies for eastern box turtle (*Terrapene carolina carolina*). Thus it appears that all necessary coordination with the NDDDB Program has taken place.

#### Tynan Memorial Park

Page 10 of the Environmental Assessment lists Tynan Memorial Park as the closest recreational property to the proposed solar farm, being 0.5 miles northwest of the proposed facility. Tynan Memorial Park serves as the trailhead for a 0.8 mile long connecting trail to the Mattabessett Trail. Other than the parking lot for the trailhead and an informational sign, there are no facilities at the park. No impact upon the park or its uses would be anticipated from the development of the solar farm.

#### Miscellaneous Petition Commentary

The wetland delineation field form in Appendix A of the Environmental Assessment classifies two of the three potential vernal pools as classic style vernal pools and only one as a cryptic vernal pool despite all three potential vernal pools being embedded within forested wetlands. Perhaps the petitioner could explain why the eastern and central potential vernal pools were not designated as cryptic.

As is typically the case, a 7' chain link perimeter fence is proposed around the solar farm. As the host site is popular with wildlife and will retain its existing vegetative cover, it would be desirable if a 6" gap of clearance could be provided between the bottom of the fence and the ground to allow for movement by smaller wildlife onto and off of the solar farm site.

On page 2 of the Decommissioning Plan, the removal of two concrete equipment pads is cited as generating 300 cubic yards of waste concrete. As each pad measures 15' x 20' x 1', each pad contains 300 cubic feet of concrete, equating to 600 cubic feet for the two pads. This in turn equates to 22 cubic yards of concrete waste rather than 300 cubic yards.

Also relative to the Decommissioning Plan, would the cited figure of 95% or greater of the facility's components being recyclable be dependent on whether solar

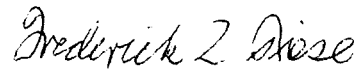
technology 25 or 30 years from now still uses the same types of panels as are currently used or would that 95% figure be independent of changes in photo-voltaic technology?

On page 2 of the Operations and Maintenance Plan, the annual inspection of the facility is described as including, among other components, trackers. Would trackers only come into play for a solar farm using variable tilt panels rather than fixed tilt ones as proposed at this site, or does this term have some other use? Also on page 2 of the O & M Plan, what is the 'DAS system' that will be inspected for proper functioning?

Lastly, the landowner for the property directly north of the site mentioned that he had planted pumpkins, corn and rye on the proposed host fields and estimated his last use of these fields was as recent as 6-8 years ago. This would contrast with statement in the petition that the site was last cultivated thirty years ago.

Thank you for the opportunity to review this petition and to submit these comments to the Council. Should you, other Council members or Council staff have any questions, please feel free to call me at (860) 424-4110.

Respectfully yours,



Frederick L. Riese  
Senior Environmental Analyst

cc: Commissioner Katie Dykes  
Attachments: (1)



## **Stormwater Management at Solar Farm Construction Projects September 8, 2017**

Solar farms are on-the-ground installations of arrays of photovoltaic cell panels, supporting structures and related equipment for the production of electricity. As with other types of construction projects, the construction of solar farms can involve land clearing, grading, excavation, trenching, dewatering and similar activities that create land disturbances which potentially result in soil erosion and sediment discharges polluting wetlands, streams and other surface waters. Construction-related land disturbances of 0.5 acres or larger are regulated in Connecticut pursuant to the Connecticut Soil Erosion and Sediment Control Act under Sections 22a-325 to 22a-329, inclusive, of the Connecticut General Statutes (“CGS”). Construction-related land disturbances of one (1) acre or larger are also regulated under CGS Section 22a-430 and under Section 402(p) of the federal Clean Water Act and the National Pollutant Discharge Elimination System (“NPDES”) program. Prior to the start of such regulated activities, authorization is required from local authorities and, for larger projects, the Connecticut Department of Energy and Environmental Protection (“Department”). Construction projects involving five (5) or more acres of land disturbance require an individual NPDES discharge permit from the Department, or may be eligible to register for coverage under the Department’s NPDES General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit).

The Department has encountered repeated problems associated with solar farm construction projects covered under the general permit, from the registration process through construction activities. Although in no way an exhaustive list, the following are common problems associated with solar farm general permit registration applications and ways to address such problems:

- Applicants have been submitting registration applications that lack the requisite information or the requirements necessary for authorization under the general permit. The Department requires a complete and sufficient application when a registration application is filed, and may reject any registration application it deems to be incomplete or insufficient.
- Applicants are not adhering to the sixty (60) day/ninety (90) day time frame for Department review as required by Section 3(c) of the general permit. While the Department has on occasion shortened the review timeframe, Applicants are expected to allocate no less than the requisite time frame for the registration application review process and must plan accordingly.
- Registration applications for solar farm projects often fail to identify the project’s contractor and sub-contractors. Section 5(b)(1)(viii) of the general permit mandates that this information be included in the registration application.
- Applicants have been repackaging the Siting Council submittal, which is not acceptable. Section 3(c)(2)(D) of the general permit mandates that the application submittal include only materials required to support the Stormwater Pollution Control

Plan (“SWPCP”). This information must be up-to-date and accurate. Any superfluous information delays the registration application review process.

- SWPCPs for solar farm projects are often lacking sufficient detail and information. An approvable SWPCP shall include, but not be limited to, the location of all erosion, sediment and stormwater control measures including detailed design cut sheets with supporting calculations, construction means and methods, project phasing (i.e., site planning, pre-construction, construction, and post-construction stabilization, etc.), construction sequencing and a construction schedule.
- The Applicant’s design professional must be well-versed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (“E&S Guidelines”), specifically the techniques found in Chapter 4, Large Construction Sites, the 2004 Connecticut Stormwater Quality Manual, as well as *current* best management practices (BMPs) recognized by the International Erosion Control Association (IECA), provided such BMPs are equal to or better than the E&S Guidelines.
- From the Department’s perspective, an approvable SWPCP will include methods for avoiding compaction of soils, disconnection and reduction of runoff associated with solar panel arrays, avoidance of concentration of stormwater, and other measures necessary to maintain or improve pre-construction hydrologic conditions.
- Applicants need to follow the SWPCP review checklist when preparing the SWPCP, giving specific attention to post-construction stormwater controls and the development of a detailed long-term maintenance plan to ensure that the SWPCP meets the terms and conditions of the general permit.

Subsequent to authorization for coverage under the general permit, the Registrant is responsible for ensuring compliance with all terms and conditions of the general permit and the approved SWPCP once construction has been initiated. However, for solar farm projects, Registrants often fail to comply with the terms and conditions of the general permit, including the approved SWPCP. In particular, Department staff have observed the following issues that a routine inspection protocol and proper oversight, as required under the general permit, would have prevented, including but not limited to:

- pre-construction site planning and management deficiencies (e.g., existing vegetation, scheduling, training, phasing/sequencing, tree protection, etc.)
- ineffective placement, maintenance, and/or repair of administrative/procedural, vegetative, and structural BMPs (e.g., erosion, sediment and stormwater runoff controls, good housekeeping, materials management, and training)
- lack of thorough inspections
- ineffective or untimely corrective action
- ineffective stabilization practices
- ineffective permanent post-construction controls (i.e., store, treat and direct stormwater quality and quantity to pre-construction levels)

Such issues at solar farm construction projects raise concerns, since such projects often create areas of land disruption larger than the generally accepted BMPs of five (5) acres anticipated under the general permit. As a result, any applicant seeking coverage under the general permit for a solar farm construction project should take care to address the issues noted above. While

by no means exclusive, some recommendations that should be incorporated into a SWPCP to address these issues include:

- Ensuring that only a Professional Engineer and/or Landscape Architect, as defined in Section 2 of the general permit, who meets the qualifications described in Section 5(b)(4)(A)(ii) and who has been approved in writing by the Commissioner, serve as the Commissioner's agent to inspect the site and also serve as the qualified inspector for the purposes of Section 5(b)(4) of the general permit ("authorized professional"). Such authorized professional must remain in good standing with the Connecticut Department of Consumer Protection and be technically and ethically qualified to inspect the site and be retained for the duration of the construction project until the Notice of Termination acceptable to the Commissioner has been filed as described below.
- Ensuring that the authorized professional prepare a proposed inspection checklist to assure the construction project is being conducted in compliance with the terms and conditions of the general permit, and the approved SWPCP is implemented in accordance with the general permit. The inspection checklist shall comply with Section 5(b)(4)(B)(iii) of the general permit, and include a space for the authorized professional's signature and professional stamp.
- Ensuring that the credentials for the authorized professional proposed by the Applicant and the proposed inspection checklist prepared by such authorized professional be submitted for the review and approval of the Commissioner and be included with the registration application for the general permit. No other professional may serve as the authorized professional without the prior submittal of relevant credentials and inspection checklist for the Commissioner's review and written approval.
- Ensuring that the authorized professional personally perform all pre-construction, construction, and post-construction site inspections; perform inspections at the end of any storm event whether or not such storm generates a discharge; and prepare and submit all inspection reports including the supporting inspection checklists in compliance with Sections 5(b)(4)(A) and 5(b)(4)(B) of the general permit.
- Ensuring that the authorized professional report any violations of the terms and conditions of the general permit or the SWPCP to the Commissioner's designee within two (2) hours of becoming aware of such violation, or at the start of the next business day of becoming aware of such violation outside normal business hours and shall, within five (5) days, prepare and submit a signed and stamped written report, which documents the cause of the violation, duration including dates and times, and corrective action taken or planned to prevent future occurrences.
- Ensuring that if circumstances necessitate a revision to the SWPCP, the authorized professional works with the Permittee's design professional to ensure compliance with the terms and conditions of the general permit, and any such change to the SWPCP shall be submitted for the review and written approval of the Commissioner.
- Ensure that the authorized professional reviews all stormwater monitoring reports to evaluate the effectiveness of the SWPCP and to document any adverse impacts that any stormwater controls on the construction site or discharges from the construction site may have on wetlands, streams, any other receiving waterbodies. Such evaluation shall be documented in the inspection reports and inspection checklists performed pursuant to Section 5(b)(4) of the general permit.
- Ensuring that, in the event the authorized professional identifies a violation of the terms and conditions of the general permit, the SWPCP, or otherwise identifies adverse



impacts on wetlands, streams or any other receiving waterbodies, that construction activity shall immediately cease and the site stabilized until such violation or adverse impacts have been corrected.

- Ensuring that reporting and record-keeping of all inspection checklists and inspection reports comply with the requirements of Section 5(d) of the general permit, except that a copy shall also be submitted electronically to the Department within ten (10) days from the date such inspection was performed.
- Ensuring that all inspection checklists and inspection reports comply with the requirements for Certification of Documents in Section 5(i) of the general permit, including the requirement that such checklists and reports shall also be prepared, stamped and signed by the authorized professional.
- After completion of a construction project, ensuring that a Notice of Termination is filed in compliance with Section 6 of the general permit, including the requirement that such Notice of Termination be stamped and signed by the authorized professional certifying that such authorized professional has personally inspected and verified that the site has been stabilized following the first full growing season (i.e., April through October) in the year following completion of the construction project.
- Ensuring that any transfer of the registration comply with the requirements of Section 5(m) of the general permit.

These recommendations are by no means intended to be exclusive. To help address the issues noted above, the Commissioner will also be considering the posting of a performance bond or other security, in accordance with Section 22a-6(a)(7) of the Connecticut General Statutes, to assure the solar farm construction project maintains compliance with the terms and conditions of the general permit and the SWPCP.