

PETITION NO. 1425 – Gaylord Mountain Solar Project 2019, LLC } Connecticut
petition for a declaratory ruling, pursuant to Connecticut General }
Statutes §4-176 and §16-50k, for the proposed construction, } Siting
maintenance and operation of a 1.9-megawatt AC solar photovoltaic }
electric generating facility located at 360 Gaylord Mountain Road in } Council
Hamden, Connecticut, and associated electrical interconnection.

March 25, 2021

Opinion

Introduction

On August 7, 2020, Gaylord Mountain Solar Project 2019, LLC (GMS) submitted a petition to the Connecticut Siting Council (Council), pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for a declaratory ruling for the proposed construction, maintenance and operation of a 1.9-megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located at 360 Gaylord Mountain Road in Hamden, Connecticut, and associated electrical interconnection (Project).

Jurisdiction

As it applies to this petition, CGS §16-50k states in relevant part, "...the Council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling... (B) the construction or location... of any grid-side distributed resources project... with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection and the Council does not find a substantial adverse environmental effect..." The project is a "grid-side distributed resource facility" as defined in CGS §16-1(a)(37) and has a capacity of approximately 1.9 MW.

Effective July 1, 2017, Public Act (PA) 17-218 requires, "for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by DEEP in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the DOAg represents, in writing, to the Council that such proposed project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such proposed project will not materially affect the status of land as core forest. The proposed facility has a generating capacity of 1.9 MW. Therefore, it is exempt from this provision of PA 17-218.

PA 17-218 also requires that the Council not find a substantial adverse environmental effect in its exercise of jurisdiction over facilities eligible to be approved by declaratory ruling under CGS §16-50k. There are no exemptions from this provision of PA 17-218.

Public Benefit

Pursuant to CGS §16-50p, a public benefit exists when a facility is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity. PA 05-1, An Act Concerning Energy Independence, portions of which were codified in CGS §16-50k, established a rebuttable presumption that there is a public benefit for electric generating facilities selected in Request for Proposals (RFP). GMS was selected in a RFP for Virtual Net Metering (VNM) Credits for the Connecticut State College and University (CSCU) system.

The Project was also awarded a low emission renewable energy credit (LREC) contract through a competitive RFP. Energy produced by the project would be sold to the United Illuminating Company (UI). GMS entered into a purchase contract with UI for the LRECs.

Proposed Project

Pursuant to a lease agreement with the property owner, GMS proposes to construct the solar facility on a 12.3 acre site located in the southwest portion of an approximate 33.6-acre property off Gaylord Mountain Road in Hamden.

The site consists of a mature upland forest interspersed with five wetlands located within the central and eastern portion of the site. The site's topography ranges from moderate to steep, with elevations ranging from approximately 560 feet above mean sea level (AMSL) in the west to 455 feet AMSL in the east. Generally, slopes range from 12.5 percent to slopes greater than 30 percent. In general, the steeper slopes at the site consist of rock outcrops.

The host property is zoned Residential and contains a 625-foot guyed telecommunications tower in the northeast corner of the parcel and an Eversource-owned electric transmission line that bisects the central portion of the parcel in a north-south axis. Surrounding land use consists of residential development to the south, east and north of the site while undeveloped land lies to the west of the site. Gaylord Mountain Road extends along the eastern site boundary.

Approximately 6,292 fixed tilt solar panels, rated at approximately 400 Watts direct current (DC), oriented 72.6 degrees east would be installed at the site. The solar panels would be installed on a steel post-racking system with a combination of driven posts, drilled piers and/or ground screws, to a maximum depth of approximately 10 feet. The solar array rows (panel edge to panel edge) would be spaced 8 feet apart. Once installed, the horizontal width of the panel row would measure 12.5 feet. The solar arrays would be enclosed by a 7-foot high farm fence with a 4-6 inch gap at the bottom for wildlife movement.

One concrete electric service pad supporting a transformer, switchboard system and associated equipment would also be installed within the solar array area. The nearest property boundary to the Project area perimeter fence is approximately 22 feet to the north.

The project would be accessed by a new 370-foot long, 15-foot wide permanent gravel access road that extends from Gaylord Mountain Road into the southeast corner of the site. The access road would have a slope of 15 percent.

To reduce traffic and disturbance to residents along Gaylord Mountain Road and Hunting Ridge Drive during construction, GMS proposes to utilize an existing 12-foot wide, 800-foot long gravel access road that extends to the on-site telecommunications tower. From the area of the tower, GMS would construct a 330-foot long temporary access road across the Eversource right of way to the solar array site. Slope mapping indicates the temporary access road would have grades of 15 to 30 percent in the area of the right-of-way, followed by more moderate slopes in the solar array area by excavating the road into the hillside.

Electrical Interconnection

The Project would interconnect to UI's existing distribution system on Gaylord Mountain Road. The interconnection would be conducted in accordance with UI's requirements and would require 5 new utility poles to interconnect the Project.

Project Alternatives

GMS investigated four sites, including the proposed site within the UI service territory. Two other additional sites were suggested by area residents during a virtual public information meeting (VPIM). GMS rejected these sites as one currently supports a solar photovoltaic facility and the other is within an-urban area circumvented by the Farmington Canal Heritage Trail on the south, east and north property boundaries.

Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.¹

Public Safety

The proposed project would comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC), and any applicable National Fire Protection Association (NFPA) codes. The Project would be remotely monitored and feature remote shutdown capabilities. The solar facility would have a protection system to shut the facility down in the event of internal or external disturbances (e.g. faults) as well as during power outage events.

The Project's permanent access road has been reviewed by the Town Fire Marshal and designed to meet emergency access requirements. Prior to operation, GMS would meet with first responders from the Town to provide an orientation to the project and information regarding emergency response measures at the project site.

The proposed project is not located within a Federal Emergency Management Agency designated 100- year or 500-year flood zone.

The project would not require a Federal Aviation Administration glare analysis.

Noise generated during facility operations would comply with the DEEP Noise Control Standards. Noise resulting from proposed project construction is exempt from the DEEP Noise Control Standards.

The proposed stormwater basin associated with the Project Area qualifies as a dam with a hazard classification of "AA", indicating it has a negligible hazard potential. Once the dam is constructed, GMS must submit a dam registration to the DEEP Dam Safety Division.

The Project has an anticipated life of 20-30 years dependent on VNM and lease agreements.

Decommissioning of the project would include solar facility infrastructure removal and site restoration consistent with the property lease. Components would be disposed of or recycled in accordance with existing statutory or regulatory requirements. Disturbed areas would be seeded.

¹ Corcoran v. Connecticut Siting Council, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

Environmental

Historic and Archaeological Resources

No historic or archeological sites listed on the National Register of Historic Places occur at the site property. Field surveys of the site found no areas with archaeological significance eligible for listing on the National Register of Historic Places. No additional site surveys or investigations were recommended.

Two previously known archaeological sites and five historic standing structures are located within the vicinity of the proposed project. Topography and vegetation separate all these resources with the exception of an historic structure is located on an adjacent parcel to the northeast of the project.

Visibility

Year-round views of the Project would be confined to approximately 17 acres (0.6% of a one-mile radius study area around the site), primarily from portions of abutting properties to the south along Hunting Ridge Road and east across Gaylord Mountain Road. GMS proposes to minimize views from Hunting Ridge Road by the combination of a 50-foot non-clearing buffer to the property line and the construction of an earth berm that would be planted with coniferous trees along the south fence line. Limited seasonal views, during leaf-off conditions, could extend approximately 800 to 1,000 feet in all directions over approximately 88 acres (3.3% of a one-mile radius study area around the site). Views beyond the immediate area would be minimized by a combination of the solar array's low height and the presence of intervening vegetation and topography.

The closest residence to the Project, which is also an historic structure, is located 143 feet northeast of the Project. A strip of vegetation would remain between the Project and this adjacent residence to provide a visual buffer.

No state designated scenic roads or scenic areas are located near the project site.

The nearest publicly accessible recreational area is the Quinnipiac Trail, a hiking trail located approximately 0.12 miles west of the Project at its closest point. The Project would not be visible from the trail.

Agriculture

No prime farmland soils are within the project site. GMS proposes a Habitat Enhancement Area to maintain land between the solar array perimeter fence and the edge of site clearing as old field habitat that is suitable for wildlife and edge nesting birds.

Forest and Parks

No state parks or forests are located adjacent to the site.

Development of the Project would require the clearing of 12.3 acres of edge forest. Although DEEP's Forestland Habitat Impact Map does not include the project site within an area mapped as core forest, the central portion of the site is within a small core forest block totaling approximately 0.9 acre using criteria established by UConn's Center for Land Use Education and Research.

Forests protect water quality. Trees intercept rain and snow promoting infiltration and uptake by tree roots; reduce runoff flow and velocities and have little soil erosion; use nutrients from soil, atmospheric deposition, and stormwater runoff that would otherwise help aid algae blooms in lakes and reservoirs; and

help mitigate impacts of climate change on water quality, such as moderating stream temperatures and attenuating runoff from extreme precipitation events. The water quality of lakes and reservoirs is partially a function of watershed forest cover. The potential loss of forest cover could affect water quality, water temperatures, and peak flows in Eaton Brook, potentially adding further stress to the Mill River ecosystem.

The Forest Subgroup of the GC3 prepared a draft report released for public comment that recommends a no-net loss policy for Connecticut forestlands and discourages the conversion of such lands to solar installations.

Wildlife

There are no known State Threatened, Endangered, or Special Concern species and/or critical habitats on the proposed site. The northern long-eared bat (NLEB), a federally-listed Threatened Species and state-listed Endangered Species, range encompasses the State of Connecticut. There are no known NLEB hibernacula within Hamden, and there are no known maternity roost trees in Connecticut. GMS consulted with the U.S. Fish and Wildlife Service and determined that the project would not have an impact on the NLEB.

Air Quality

During operation, the proposed project would not produce air emissions of regulated air pollutants or greenhouse gases. Thus, no air permit would be required. The proposed project would meet DEEP air quality standards.

Water Quality

The Connecticut Department of Public Health noted the site location is within the public water supply Mill River watershed includes both the Mount Carmel wellfield and Lake Whitney Reservoir as active sources of public drinking water sources for the Southeast Connecticut Regional Water Authority (RWA). Groundwater underlying the site is classified by DEEP as “GAA” presumed to be suitable for human consumption without treatment; however, the project site is located outside of any DEEP-designated Aquifer Protection Area. No drinking water wells are within the project site but five adjacent parcels contain drinking water wells. Consistent with DPH recommendations to prevent any impacts to groundwater resources, GMS would follow Best Management Practices during construction, operation and maintenance of the Project, including, but not limited to, fuel spill prevention and control and specific practices for the use of products. Installation of the project is not expected to have any effect on any nearby water wells. Site excavation would be limited to the drainage swales and stormwater basin.

Wetlands and Watercourses

The Inland Wetland and Watercourses Act (IWWA) strikes a balance between economic activities and wetlands preservation. The impact of a proposed activity on the wetlands and watercourses that may come from outside the physical boundaries of the wetlands or watercourses is a major consideration. Defined upland review areas, such as 100 feet, provide a trigger for reviewing whether a regulated activity is likely to affect wetlands and watercourses. Under CGS §22a-41(d), regulatory agencies shall not deny or condition an application for a regulated activity in an area outside wetlands or watercourses on the basis of an impact or effect on aquatic, plant, or animal life unless such activity will likely impact or affect the physical characteristics of such wetlands or watercourses.

Five wetlands, totaling 0.44 acres, were delineated in proximity to the Project area. No vernal pools were identified on the site.

Most of the wetlands are forested drainage areas that eventually drain to Wetland 3, located west of Gaylord Mountain Road. Wetland 3 drains east via a culvert under the road, flowing downstream to a confluence with Eaton Brook, located within the Mill River watershed. Wetland 2, located along the northeast property line, and Wetland 3 are the highest quality wetlands on the site.

Tree clearing would occur within 50 feet of Wetland 2. The proposed stormwater basin would be constructed on a steep slope above Wetland 3, with the limit of disturbance located 47 feet from the wetland. Wetland 5, a forested wetland 2,500 square feet in size, is located within the fenced solar array area and would be cleared to prevent shading effects on adjacent solar panels. Buffers to the other two on-site wetlands, Wetlands 1 and 4, are approximately 21-22 feet to the project limit of disturbance.

An undisturbed vegetative buffer between a developed area and a wetland resource can filter pollutants and protect water quality from stormwater runoff. According to the *2004 Connecticut Stormwater Quality Manual*, as a general rule, a minimum 100-foot buffer of undisturbed upland along a wetland boundary or on either side of a watercourse is recommended to protect water quality.

In its November 12, 2020 correspondence, DEEP noted that without a habitat assessment of the wetlands there is not enough information to determine the size of an adequate buffer to the wetlands. Additionally the wetlands would have the capacity to provide wildlife habitat and protect water quality if a larger buffer were established, especially since some of the wetlands are located in an undisturbed mature forest setting.

Stormwater

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. The DEEP Individual and General Permits for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater Permit) requires implementation of a Stormwater Pollution Control Plan to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a project after construction is complete.

A DEEP issued Stormwater Permit is required prior to commencement of construction. All aspects of Project construction phasing, erosion and sedimentation control methods, and temporary and permanent stormwater control features are reviewed and approved by DEEP as part of the Stormwater Permit registration. No site construction activities can occur until the Stormwater Permit is issued. The Stormwater Permit includes a Stormwater Pollution Control Plan (SWPCP) that requires appropriate construction phasing and the establishment of erosion control features in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and the 2004 Connecticut Stormwater Quality Manual. DEEP has the authority to enforce Project compliance with its Individual or General Permit and the SWPCP.

GMS and DEEP Stormwater Division personnel discussed the proposed project on several occasions and conducted a field visit of the Project site prior to submission of the Project to the Council. Based on DEEP Stormwater Division recommendations, GMS revised the project site design and stormwater management system. Project revisions included removal of approximately 672 solar panels from slopes greater than 20 percent; orienting solar panels to an azimuth of approximately 72.6 degrees to be perpendicular to the existing topography to minimize stormwater runoff from the drip-edge of the solar panel; installing compost

filter socks along existing contours every 75 feet along slopes during construction; phasing construction to provide a minimum of one month of site stabilization between site clearing and rack installation; hydroseeding all disturbed areas; and flush cutting stumps to maintain existing soil stability except for areas with temporary and permanent access roads, equipment pads, and stormwater management features.

The proposed stormwater management system was designed to meet the requirements of the DEEP Stormwater Permit, including draft Appendix I, Stormwater Management at Solar Array Construction Proposed projects. In accordance with draft Appendix I, the stormwater calculations for the project were performed with the reduction of one hydrologic soil group. Water quality volume was calculated with the solar panels, roadways, gravel surfaces, and transformer pads considered as effective impervious cover.

Based on a stormwater analysis of the site, GMS proposes to install one stormwater detention basin on the eastern portion of the site to collect excess stormwater that does not infiltrate into the soil while draining across the vegetated solar field area. Other stormwater control features include a swale along the eastern portion of the property to divert runoff into the stormwater basin, a swale with a plunge pool along the access road and a level spreader located west of and upgradient of the solar field. Based on site topography and the location of outlets for the stormwater basin and plunge pool, it appears stormwater from these features will discharge in one location upgradient of Wetland 3.

Construction would be phased to manage site disturbance which totals 12.7 acres. Approximately 4.16 acres of the site would be cleared and grubbed during Phase 1. Grading activities on steep and moderate slopes would occur to establish the temporary and permanent access roads, and the stormwater management system. Additionally a construction access way would extend downgradient from the end of the temporary access road to the stormwater basin area over slopes between 15 and 30 percent. Although no grading is proposed within the solar array area, soils would be temporarily exposed through forest leaf and debris removal necessary to establish ground cover.

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Although GMS stated it would design the project in accordance with a DEEP-issued Stormwater Permit, the presence of Wethersfield/Ludlow loam soil at the site, classified as having high erosion potential, particularly along steep slopes, presents a sedimentation issue. This loam has a high content of fine soil particles that remain suspended for multiple days in stormwater detention areas, often exiting as overflow. The stormwater basin proposed for this site discharges towards Wetland 3, which would receive stormwater flows that have the potential to carry fine sediments. This wetland, located along the west side of Gaylord Mountain Road, connects to a tributary of Eaton Brook, part of the Mill River watershed.

These soils also have the ability to pass soil particles through haybales and/or silt fence mesh as well as through the fiber filling in coir sedimentation logs which could result sedimentation issues beyond the work areas. Additionally, inadequate undisturbed upland buffers that would serve to reduce the potential for wetland sedimentation are proposed along wetland boundaries adjacent to project work areas.

As proposed, project construction would result in the development of 12.3 acres of mature forest situated within the headwaters of the Mill River watershed. GMS claims the project has been designed to comply

with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and to comply with the 2004 Connecticut Stormwater Quality Manual. However, the risk of clearing trees interspersed with wetlands within a moderate/steep slope topography could potentially increase stormwater runoff and expose vulnerable erodible soils. The Council is concerned about sedimentation impacts to wetlands and watercourses that are in close proximity to the limits of disturbance and the resulting detrimental effect on water quality to watershed resources.

Conclusion

Based on the record in this proceeding, the Council finds that there would be a substantial adverse environmental effect associated with the construction, maintenance and operation of an approximately 1.9 MW solar photovoltaic electric generating facility and associated electrical interconnection located at 360 Gaylord Mountain Road, Hamden, Connecticut.

Although the proposed project is a grid-side distributed resources project with a capacity of less than 65 MW under CGS §16-50k, it was selected under competitive RFPs and is consistent with the state's energy policy under CGS §16a-35k, due to forest clearing that would expose moderate/steep slopes and erodible soils that could exacerbate stormwater runoff and affect water quality, and the absence of sufficient wetland buffers that consist of undisturbed upland to promote wildlife value and wetland water quality, the proposed project would not meet all applicable U.S. Environmental Protection Agency and DEEP Water Quality Standards. Therefore, the Council will not issue a declaratory ruling for the proposed project.