DOCKET NO. 514 - Glenvale, LLC d/b/a Glenvale Solar	}	Connecticut
application for a Certificate of Environmental Compatibility and		
Public Need for the construction, maintenance, and operation of a	}	Siting
4.0-megawatt-AC solar photovoltaic electric generating facility		
located at 56 River Road, Putnam, Connecticut and associated	}	Council
electrical interconnection.		
		August 31, 2023

#### Opinion

#### **Introduction**

On March 8, 2023, Glenvale, LLC d/b/a Glenvale Solar (Glenvale) submitted an application (Application) to the Connecticut Siting Council (Council), pursuant to Connecticut General Statutes (CGS) §16-50p, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a 4.0 megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located 56 River Road in Putnam, and associated electrical interconnection (Project).

#### **Jurisdiction**

Under the Public Utility Environmental Standards Act, the Council's charge is to balance the need for adequate and reliable public utility services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state. Pursuant to CGS §16-50p, for an application for an electric generating facility under CGS §16-50i(a)(3), the Council shall not grant a Certificate, either as proposed or modified by the Council, unless it shall find and determine:

- a) A public benefit for the facility and considers neighborhood concerns with respect to the nature of the probable environmental impacts of the facility, including public safety;
- b) the nature of the probable environmental impact of the facility alone and cumulatively with other existing facilities, including a specification of adverse effects relative to electric and magnetic fields, impact on and conflict with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, agriculture, forests and parks, air and water purity and fish, aquaculture and wildlife; and
- c) why the adverse effects are not sufficient reason to deny the application.

#### **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. Public Act 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 by the Public Utilities Regulatory Authority in Requests for Proposal.

The Project was selected in Year 2 of the Shared Clean Energy Facility (SCEF) program. The electricity, capacity, and renewable energy credits (RECs) produced by the facility would be sold to Eversource in accordance with a 20-year Tariff Terms Agreement (TTA). A REC certifies that one megawatt-hour of renewable electrical energy has been generated.

Glenvale would not participate in an ISO-New England, Inc. (ISO-NE) Forward Capacity Auction during the term of the TTA.

Petition 514 Opinion Page 2 of 8

In light of Governor Lamont's Executive Order No. 3 to decarbonize the state's electric generation fleet and the Project's participation and selection in the competitive SCEF Program, the project is necessary for the development of a competitive market for electricity.

### **Proposed Site**

Glenvale would construct the facility on a 16.9-acre site<sup>1</sup> on an approximate 31.4-acre host parcel at 56 River Road in Putnam. The site is under a purchase and sale agreement between the property owner and Glenvale which is anticipated to close prior to the start of project construction.

The host parcel is zoned Agricultural District and is undeveloped. A three-acre field in the northwestern corner of the host parcel, fronting River Road, is currently under lease with a local farm for feed corn cultivation, and the remaining 28.4 acres are forested, historically used for tree harvesting. An Eversource transmission line right-of-way extends from north to southeast across along a portion of the western property boundary.

Land use in the surrounding area consists of rural residential, undeveloped land, a hospital, a municipal sewage treatment plant, and industrial-zoned property.

#### **Proposed Facility**

The Project consists of 8,925 non-reflective solar panels rated at 490 watts. The panels would be installed on a single-axis tracker system that would move in a north-south axis to a maximum angle of 55 degrees. At maximum tilt, the panels would be approximately 8 feet above grade at the highest point and 2.5 feet at the lowest point. The panels would be arranged in linear rows facing south, separated by 10-foot wide vegetated aisles.

Two concrete pads would be installed on the northwest side of the site, adjacent to and outside of, the fenced array area for a primary meter and a transformer. A third concrete pad would be located in the north-central portion of the site to support a medium voltage power station.

The Project would be enclosed by a seven-foot tall chain link fence, except along River Road where the fence would be eight feet tall and include privacy slats. Glenvale would be willing to install an agricultural style fence along the north, south and east sides of the site where privacy slats are not proposed.

Access to the facility would be from a new 16-foot wide, 350-foot long gravel access drive extending east from River Road along the north property line. Approximately 280 feet of the access drive would be within the site perimeter fence, with access controlled by a swing gate.

The nearest property line to the facility perimeter fence is 38 feet to the north at 34 River Road. To increase the distance of the fence to the abutting property, the Council will order Glenvale to relocate the perimeter fence to the south of the access drive, thereby increasing the distance of the fence to the abutting property by 16 to 20 feet.

<sup>&</sup>lt;sup>1</sup> "RCSA §16-50j-2a(29), "Site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located.

Petition 514 Opinion Page 3 of 8

Although the perimeter fence will be redesigned to increase the distance to the nearest abutting properties, the Council will also require Glenvale to explore the possibility of relocating the access drive and Project interconnection farther to the south along River Road to increase the distance from the abutting properties to the north.

### Electrical Interconnection

The 23-kV facility electrical interconnection includes the installation of two pad-mounted meters at the site, one for Glenvale and one for Eversource. Underground conduit would connect the medium voltage power station to the meter pads. From the meter pads, the interconnection would transition to an overhead line requiring one new utility pole on the east side of River Road to facilitate interconnection to an existing utility pole on the west side of the road. The facility would connect to Eversource's Tracy Substation.

An interconnection agreement with Eversource is expected to be completed by the end of 2023.

## **Project Alternatives**

Glenvale selected the proposed site due to availability, proximity to an existing three phase electric distribution line, surrounding land uses, and physical characteristics. Glenvale also investigated a potential rooftop installation at the Day Kimball Hospital and an installation at the Town of Putnam (Town) sewage treatment plant but determined those sites were not viable due to cost and lack of available space to support a 4.0 MW facility.

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<sup>2</sup>.

# <u>Cost</u>

The estimated construction cost of the Project is \$6.5 to \$7.6 million.

# Neighborhood Concerns

The Council held a publicly noticed public comment session via Zoom conferencing on June 15, 2023, commencing at 6:30 p.m. One member of the public made an oral limited appearance statement at the public comment session expressing concerns that included, but were not limited to, wildlife disruption, loss of farmland, and the potential for use of other locations. While the Council public comment record was open, no written limited appearance statements were received by the Council.

Prior to submission of the application to the Council, based on neighborhood and Town concerns, Glenvale modified the proposed facility by developing a landscape plan, redesigning the interconnection and relocating the medium voltage power station farther away from an abutting property.

<sup>&</sup>lt;sup>2</sup> Corcoran v. Connecticut Siting Council, 284 Conn. 455 (2007); CGS §16-50p(g) (2019)

Petition 514 Opinion Page 4 of 8

# **Public Safety**

The Project would comply with the current National Electrical Code (NEC), the National Electrical Safety Code (NESC) and the National Fire Protection Association code.

The facility would be remotely monitored on a 24/7 basis using a computer monitoring system which can detect production abnormalities. If abnormalities occur, the facility can be remotely shut down in its entirety.

Glenvale would conduct outreach and coordinate training with the Town emergency responders to provide information regarding facility operations. A site-specific safety plan will be provided to emergency response personnel and other authorities that details solar facility shut down procedures. Site access for emergency responders would be provided via a Knox Box at the entrance to the facility.

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

Noise

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

## Electric and Magnetic Fields

Operation of the facility would result in electric and magnetic fields (EMF) derived from the DC solar panels; the DC cables connecting the solar arrays to the inverters; the inverters that convert DC power to AC power; and the underground and overhead interconnection to Eversource's existing 23-kV electric distribution line along River Road.

Scientific evidence indicates that exposure to electric fields (EF), beyond levels traditionally established for safety, does not cause adverse health effects, and as safety concerns for electric fields (EF) are sufficiently addressed by adherence to the NESC, as amended, health concerns regarding EMF focus on magnetic fields (MF) rather than EF.

The solar panels and DC cables would produce static (or 0 Hz) MF, and would not be expected to produce any disturbance to the existing levels of static MF that are produced by the earth's geomagnetic field. The existing levels of the earth's geomagnetic field are about 8,000 times lower than the standard for exposure of the general public to static magnetic fields recommended by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

The inverters would produce AC MF at frequencies greater than 60 Hz close to the inverter on site, but this would be localized and not an important contribution to AC MF off-site. At maximum Project output, the current carried by the underground interconnection would be a weak source of MF.

Due to the operational characteristics of the facility and the connection of the facility to the electric distribution system, the facility would not produce EF or MF above recommended guidelines, including those of the ICNIRP and the NESC.

The Council is satisfied that the Project's EMF have been demonstrated to be below recommended exposure standards established by ICNIRP and are not of a concern.

Petition 514 Opinion Page 5 of 8

## Decommissioning

The Project has an anticipated life of 30 - 40 years. At the end of the Project's lifespan, the facility components would be removed and recycled or disposed of in accordance regulatory criteria. Glenvale, as owner of the site property, may retain the access road and stormwater management system depending on future use of the site property.

The Council does not have the authority to require additional site restoration conditions on private property. The property owner would determine site restoration conditions at the time of Project decommissioning, including, but not limited to, condition of farmland soils.

Project components that cannot be recycled will be removed and disposed of in accordance with regulatory criteria. Glenvale has not yet procured solar panels for the facility. Glenvale would select panels that meet current Toxicity Characteristic Leaching Procedure (TCLP) criteria that indicate the panels would not be characterized as hazardous waste in the event the panels cannot be recycled at the end of the Project's life.

# **Environmental Effects and Mitigation Measures**

## Air and Water Quality

The Project would meet DEEP air quality standards. There would be no air emissions associated with site operation.

Operation of the facility would not require water use.

Groundwater is classified as "GA" which indicates it is presumed suitable for human consumption without treatment. The residences in the area are presumably served by private wells. The Project is not expected to impact groundwater quality. In order to ensure subsurface water quality is maintained, the Council will order Glenvale to prepare a spill prevention plan for construction activities that includes spill response procedures and appropriate contact information.

The site is located outside of a DEEP-designated Aquifer Protection Area and a Public Drinking Supply Watershed.

#### 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*.

A forested wetland extends across the southern portion of the parcel, continuing off-site to the south. An extension of this wetland also occurs on the abutting property to the west because of ditching associated with a former railroad.

Petition 514 Opinion Page 6 of 8

The construction limit of disturbance (LOD) would be approximately 96 feet from the wetland at its closet point. The post-construction wetland buffer for the Project complies with the requirements of Stormwater Permit Appendix I.

A vernal pool is located within the forested wetland. The LOD is approximately 110 feet from the vernal pool envelope at its closest point, associated with tree clearing area to reduce shading. Glenvale would restore this area with native shrubs to provide cover for vernal pool species. The Project would increase the developed portion of the Critical Terrestrial Habitat (CTH) around the vernal pool by 6, percent, bringing the total development of the CTH to 23 percent and within the US Army Corps of Engineers Vernal Pool Best Management Practices guidance value of 25 percent maximum development to maintain vernal pool quality.

To prevent the southern stormwater detention basin from acting as a decoy pool for vernal pool obligate species, Glenvale would install exclusion fencing around the perimeter of the basin.

#### Stormwater

Pursuant to CGS §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) require implementation of a Stormwater Pollution Control Plan (SWPCP) 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.

DEEP has the authority to enforce Project compliance with its Stormwater Permit and the SWPCP, including, but not limited to, the installation of site-specific water quality protection measures in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (2002 E&S Guidelines).

The Project has been designed to comply with DEEP Stormwater Permit Appendix I and the 2002 E&S Guidelines. Glenvale intends to install perimeter E&S controls and install temporary sediment traps and associated swales (Phase 1). Once the sediment traps and swales are installed, Glenvale intends to clear the remainder of the site and install facility infrastructure (Phase 2). The Council will order Glenvale to submit a Phase 1 stabilization plan prior to commencing with Phase 2 activities. Post-construction stormwater would be controlled by perimeter swales and three stormwater management basins located along the perimeter of the site.

In accordance with the Stormwater Permit, the stormwater management system is designed to maintain existing drainage patterns during 2, 10, 25, and 100-year storm events. Once the site is stabilized, Glenvale would conduct monthly inspections of the site, including stormwater control features.

#### Forest and Parks

Existing forest on the property is part of an approximate 104-acre forest block that extends across several parcels. Of the 104-acre forest block, 34-acres are considered core forest, part of which is located on the host parcel. Development of the site would reduce the core forest from 35 acres to 26 acres but would not change its small core forest designation or value.

Petition 514 Opinion Page 7 of 8

Although not required for an application, Glenvale obtained a written determination from DEEP, dated May 25, 2022, that the proposed Project will not materially affect the status of core forest.

The Natchaug State Forest is approximately 0.4 miles east of the site, along the east bank of the Quinebaug River in Putnam. Development of the site would not affect the state forest.

## Scenic, Historic and Recreational Values

The Project would have no effect on historic or archeologic resources listed on the State or National Register of Historic Places.

The proposed facility would not be visible to an undeveloped portion of the Air Line Rail Trail that abuts the site to the east. The railroad elevation is 10 to 15 feet lower than the nearest edge of the Project and a wooded buffer would be maintained between the railroad and the site.

There are no town or state designated scenic roads within one mile of the site. No comments were received from the Office of Policy and Management or DEEP regarding impacts to scenic quality or resources.

Most of the views of the site would be from frontage along River Road and to the abutting residential property to the north. Glenvale developed a landscape plan that consists of plantings along the north property line. The Council will order Glenvale to submit a Landscaping Plan that includes additional plantings around the gravel access drive turnaround area and along River Road, where feasible. The chain link fence along River Road would also have privacy slats to screen views of the facility.

## Fish, Aquaculture and Wildlife

DEEP issued a Natural Diversity Database no impact determination letter on January 25, 2022. The letter recommended that pollinator habitat be planted within the array and fencing be installed to promote wildlife movement.

Glenvale consulted with the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System and determined construction at the site would have no impact on federally threatened or endangered species.

The site is not within a DEEP-designated cold-water habitat/fishery.

#### Agriculture

The host parcel contains 5.0 acres of mapped prime farmland soil, of which 3.2 acres are under active cultivation by a third-party dairy farmer. The remaining 1.8 acres is forestland. The Project would occupy 4.4 acres of prime farmland soil consisting of both forest and open field.

The third-party dairy farmer, who currently uses a portion of the site to grow feed corn, submitted correspondence to Glenvale and the Department of Agriculture (DOAg) indicating that the loss of the three-acre field through development of the Project would have no impact on his farming activities.

Prior to submitting the application, Glenvale considered filing a petition for a declaratory ruling to the Council for the proposed facility, pursuant to C.G.S. §16-50k and §4-176. Glenvale met with DOAg in 2022 to discuss the facility and its potential impact on prime farmland soil. Agricultural co-uses that were presented and subsequently rejected by DOAg, include establishing apiaries for honey production, sheep

Petition 514 Opinion Page 8 of 8

grazing within the fenced solar facility site and the conversion of other land on nearby parcels for agricultural use by the third-party dairy farmer.

If necessary, Glenvale would implement an agricultural co-use plan for the proposed facility site that includes seasonal sheep grazing within the solar array perimeter fence. Glenvale would also consider other agricultural co-uses for the site. If sheep grazing was conducted at the site, it would be in accordance with DOAg's "Requirements for Solar Grazing Properties" document. It would also require installation of a perimeter fence to ground level to deter predators and a drilled well.

The solar array would be seeded with a seed mix developed that provides sufficient forage for livestock and promotes pollinator species. The Council will require that the final seed mix be included in the D&M Plan.

#### **Conclusion**

Based on the record of this proceeding, the Council finds and determines that there is a public benefit for the facility. The Council also finds and determines that the proposed Project is not in conflict with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, agriculture, forest and parks, air and water purity, and fish, aquaculture and wildlife, together with all other environmental concerns, including EMF, and balanced the interests in accordance with C.G.S 16-50p(a)(3)(B) and C.G.S 16-50p(a)(3)(C). The environmental effects that are the subject of C.G.S 16-50p(a)(3)(B) can be sufficiently mitigated and do not overcome the public benefit for the facility.

The Council will require Glenvale to submit a D&M Plan for the proposed Project to include, but not be limited to, a final site plan; an erosion and sediment control plan consistent with the with the 2002 *Connecticut Guidelines for Erosion and Sedimentation Control* and the DEEP-issued Stormwater Permit, site construction sequence/phasing plan; final landscaping/seeding plan; operations and maintenance plan, and Spill Prevention Control Plan.

With the conditions listed above, the Council will issue a Certificate for the construction, maintenance, and operation of a 4.0 MW AC solar photovoltaic electric generating facility located at 56 River Road, Putnam, Connecticut, and associated electrical interconnection.