

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Hecate Energy Highland LLC for a)	Case No. 18-1334-EL-BGN
Certificate of Environmental)	
Compatibility and Public Need to)	
Construct a Solar-Powered Electric)	
Generating Facility in Highland)	
County, Ohio)	

DIRECT TESTIMONY OF EMILY KOSMALSKI

Q.1. Please state your name, title, and business address.

A.1. My name is Emily Kosmalski. I am a Senior Associate with Terracon Consultants, Inc. (“Terracon”) located at 2105 Newpoint Place, Suite 600, Lawrenceville, Georgia 30019.

Q.2. With respect to this Project, by whom are you employed and in what capacity?

A.2. I was retained by Hecate Energy LLC to directly supervise the execution by Terracon of various technical studies and field work associated with the environmental review and certification of the Highland Solar Farm (the “Project”) on behalf of Hecate Energy Highland LLC (“Applicant” or “Hecate”). In addition to supervising the execution of various technical studies, I reviewed and analyzed the implications of the studies as applied to the Project and participated heavily in the drafting on the technical portions of the Application, Supplement to the Application, and Modification to the Application.

Q.3. What is your education and professional background?

A.3. I hold both a bachelor’s degree and master’s degree in Geography from Ohio University. My master’s degree is focused primarily on environmental planning and impact assessment. Over the course of my thirteen year consulting career, I have prepared, coordinated, or overseen environmental planning documents on thousands of projects nationwide. My specific area of expertise is the National Environmental Policy Act (NEPA) and achieving NEPA regulatory

compliance for a variety of lead federal agencies. My NEPA experience has included the following lead federal agencies: FCC, FAA, DOT/FHWA, USDA-ARS, USDA-RUS/RD, USACE, TVA, VA, BLM, DOD (Navy and Air Force), BIA, HUD, HHS, and SBA. I am considered a subject matter expert in FCC NEPA compliance and have served on regulatory panels and developed articles and presentations regarding the subject. Beyond FCC telecommunications NEPA compliance, my career has focused heavily on solar projects. I routinely perform and/or coordinate environmental work for proposed solar developments nationwide. I have been involved in solar projects throughout Virginia, Ohio, Georgia, Alabama, North Carolina, South Carolina, Florida, Louisiana, and Texas for a variety of solar developers. I have assisted Hecate Energy with several of these projects.

Q.4. On behalf of who are you offering testimony?

A.4. I am testifying on behalf of the Applicant, Hecate Energy Highland LLC in support of its Application for a Certificate of Environmental Compatibility and Public Need to Construct a Solar-Powered Electric Generating Facility in Highland County, Ohio (“Application”) filed in Case No. 18-1334-EL-BGN.

Q.5. What is the purpose of your testimony?

A.5. The purpose of my testimony is to describe the certain studies that support the Application and summarize the results of those studies.

Q.6. What studies did you undertake and direct on behalf of the Applicant to support the Application identified in Exhibit 1?

A.6. Terracon is the lead environmental consultant on the Highland Solar Farm, which includes the approximately 3,400-acre Project area, within which solar panels, overhead electrical lines, inverters, roads, a project substation, and other ancillary facilities will be located. I have managed,

been directly involved in coordinating, and am familiar with the full range of environmental and other technical assessments completed for all aspects of this Project. The written studies and maps prepared through my coordination are attached to the Application for the Project, submitted to the Ohio Power Siting Board (“OPSB”) on October 9, 2018, as Figures 1 through 17 and Exhibits D through J. In addition to undertaking and coordinating the studies noted above, the maps attached to the Supplement to the Application filed on December 6, 2018 were also completed through my coordination, along with the Preconstruction Noise Study filed on February 8, 2019 and the Modification to the Project Footprint filed on February 20, 2019. However, through Terracon’s preparation of the Application, I am also familiar with all studies, including those not prepared by Terracon.

Q.7. Will the Project generate any significant noise during construction?

A.7. The Project is not expected to generate significant noise during construction, and any noise associated with construction of the Project should be minimal. As noted on page 45 through 46 of the Application and in Exhibit E, Terracon was retained by the Applicant to investigate the potential noise impacts from the construction of the proposed Highland Solar Farm. Blasting activities would not be required for the Project. Construction considerations did include earth moving equipment, driving of piles, erection of structures, traffic, and installation of equipment that would be typical of the installation of solar farm equipment. Moreover, construction is anticipated to occur during normal working hours and is not anticipated to require any mitigation efforts. Ultimately, based on the noise assessment results, construction noise associated with the Project is anticipated to be minimal.

Q.8. Will the Project generate any significant noise during operation?

A.8. The Project is unlikely to have a significant noise impact during operations in the surrounding area. Terracon prepared a Preconstruction Noise Study and Noise Modeling of Operations (“Preconstruction Noise Study”) dated January 31, 2019 and filed with OPSB on February 8, 2019. A noise survey was conducted along the property boundary of the nearest non-participating property (residence) located at 2720 Gath Road, Hillsboro, Ohio. A Quest Technologies Sound Pro DL Sound Level Meter (SLM) was used to collect a 24-hr noise sample. The sound level meter was placed in a waterproof enclosure and chained to a telephone pole approximately 10 feet from the side of the road. Based on the survey results, the average sound level measured during the study at the nearest residence was 54.4 dBA. Road traffic was found to be the most significant source of noise at this location. Sound levels further into the site and away from the road would likely be lower. Terracon performed noise modeling of proposed solar farm operations using the Sound Mapping Tools: an ArcGIS toolbox for modeling the propagation of sounds. The model showed that no areas outside of the Project boundary showed exceedance of the existing background levels measured. Ultimately, based on the results of the model, the solar project is not anticipated to have a significant noise impact during operations on surrounding community noise levels or sensitive receptors.

Q.9. Will there be any wetland, streams, and other waters within the Project area impacted by the Project?

A.9. The Project was specifically and intentionally designed to avoid impact to jurisdictional wetlands and waters. Terracon conducted Ecological Reports, including a Wetland Delineation, which are attached as Exhibit G and discussed on pages 52 through 58 of the Application. The Wetland Delineation was developed to identify and delineate potentially jurisdictional wetlands

and waters. Terracon also compiled GIS mapping data of collection lines and access roads in proximity to where streams, wetlands, and other waters were located in the Project area. Terracon identified thirty-one wetland features totaling 287.18 acres and thirty streams totaling 49,821 linear feet within the Project Area boundaries. Using the data provided by Terracon in coordination with the design team, the site was intentionally designed to avoid impacts to wetlands and jurisdictional waters from the Project. Per the request of OPSB, Terracon additionally performed Ohio Rapid Assessment Method for wetlands (ORAM) and/or Qualitative Habitat Evaluation Impact for streams (QHEI) scoring (as applicable) in areas where a proposed overhead or underground line may cross a potentially jurisdictional feature. The scoring showed features were not considered “high quality” wetland or stream features; however, it should also be noted that these features will not be impacted by the proposed development activities.

Sensitive areas including jurisdictional wetlands and waters have been delineated by designating boundaries with flagging tape and mapped with global positioning unit (GPS) technology. Additionally, a ten-foot buffer has been placed on all jurisdictional wetlands and waters on Project designs to minimize any incidental disturbance from construction activities. There is no anticipated impacts to jurisdictional streams or wetlands during construction or operations. However, the Applicant will develop a Storm Water Pollution Prevention Plan (SWPPP) and incorporate appropriate erosion and sediment control best management practices (BMPs) to increase soil stability and ensure that waterbodies are not adversely impacted.

On February 20, 2019, Applicant filed a Notice of Modification to the Project Footprint. Based on the updated studies, approximately, 12.8 acres of potentially jurisdictional wetlands were identified on the approximately 95-acre expansion parcel within the wooded areas. An updated Delineated Resource Map showing jurisdictional wetlands and waters is provided as Revised

Figure 11 in that filing. However, as is the case with the Project overall, Applicant will avoid any design impacts to jurisdictional wetlands and waters in connection with this addition.

Q.10. Was a visual resource assessment performed, and, if so, what were the findings?

A.10. Yes, I coordinated a Viewshed Analysis Report, attached as Exhibit J in the Application and discussed on pages 64 through 66 of the Application and the overall visual impact should be very minimal and limited to the immediately adjacent properties due to the topography, existing vegetative screening, and/or height of the panels. To determine the potential for visual impact, Terracon utilized LiDAR technology to evaluate the potential for visibility within both a 2-mile and 5-mile radius of the Project. Based on the review, almost no visibility was identified beyond 2-mile from the Project, except for some small areas. Terracon completed a review of recreational resources within 2-mile and within the 5-mile areas denoted by LiDAR as having limited visibility as well. Based on the results of the Visual Resource Survey, no recreational areas were identified with the potential for visibility for the Project.

Due to its low profile the facility will generally only be visible from the immediately adjacent properties. The Applicant will make reasonable efforts to coordinate with landowners of adjacent properties regarding viewshed impacts or concerns, in order to limit visual impacts on neighboring properties in the line of sight. Moreover, if a previously unidentified scenic resource were to be identified within the viewshed during any point of the development process or through the completion of the Phase I Cultural Resource Survey (currently in progress), consultation will occur with the landowner/managing entity of the parcel and/or the SHPO, as determined appropriate, to ensure minimization and mitigation of impacts to the resource during project design.

Finally, it is my understanding that as part of a condition of the Certificate, prior to commencement of any construction, the Applicant shall prepare a landscape and lighting plan that addresses the aesthetic and lighting impacts of the facility where an adjacent non-participating parcel contains a residence with a direct line of sight to the project area. The plan shall include measures such as alternate fencing, vegetative screening, good neighbor agreements, or other measures subject to staff review. The Applicant shall provide the plan to Staff for review and confirmation that it complies with this condition.

Q.11. Will the Project adversely impact cultural historic resources?

A.11. The Project is not anticipated to impact previously documented cultural historic resources in the area at this time based on a Cultural Resources Literature Review (Exhibit I) that was completed for the Applicant by Terracon. The Review identifies and considers previously recorded cultural resources on the site and within a 5-mile radius. Based on Terracon's Review, no previously recorded cultural resources were identified within the Project footprint. Numerous recorded cultural resources were identified within the 5-mile radius. However, due to their locations off the project site, the potential impact to these resources would only be considered visual (not direct), and it was determined through the Cultural Resources Literature Review and Visual Resource Survey that no previously recorded cultural resources would be visually impacted by the Project.

Moreover, additional work is underway to identify any potential previously unrecorded archaeological and cultural resources. The Applicant has coordinated with Ohio State Historic Preservation Office (SHPO), and intends to complete a Phase I Archeological Survey of the Project footprint (currently in progress). The findings of the Survey will be provided to Ohio SHPO for their review and consideration and will be utilized with respect to the Project footprint. I also

understand that Staff has recommended that conducting this Phase I survey will be a condition of the Certificate. During the public hearing, a member of the public expressed concerns regarding the potential presence of a serpent mound on the project site. Based on the cultural literature review conducted as part of the Phase I Cultural Survey, which includes the 1914 Mills Archeological Atlas of Ohio, serpent mounds were identified approximately 350 meters west and 700 meters east of the site. Additionally, during cultural fieldwork, a potential off-site burial mound was reported by a landowner. Based on the landowner's description, the mound was a burial mound (not a serpent mound) and located several hundred meters southeast of the project area between a stand of trees and Highway 321. As it was on private property Terracon could not see the mound, and thus not able to verify the distance with accuracy. Terracon intends to coordinate further with the Friends of Serpent Mound regarding their findings. Should any information be presented that indicates the potential for a mound on the site, Terracon will coordinate with the Ohio SHPO to further investigate the findings to ensure project avoidance of sensitive resources.

Q.12. How will the Project impact agricultural resources?

A.12. The Project will utilize land currently used for agricultural crop production, including soybeans, corn, and cotton. Of the 3,400-acre Project boundary, the Applicant expects to utilize approximately 1,839-acres for the solar modules. With the modification filed on February 20, 2019, an additional 82 acres of agricultural land will be a part of the Project. Of this acreage, 1,794 is Current Agricultural Use Valuation (CAUV) land and 45 is considered an agricultural district. The proposed 1,839-acre area includes development for the proposed solar array, access roads, and substation. The area of disturbance will predominantly be in areas currently utilized for agricultural purposes (row crops). Approximately 1,461 acres of agricultural land and wooded land would not be developed.

Agricultural field operations in areas the solar project will utilize will not continue following the commencement of construction. Agricultural activities may resume following the eventual decommissioning of the solar site. Following construction of the Project, the areas utilized for the Project will no longer be irrigated. The Applicant will ensure irrigation lines damaged in connection with the construction for the solar farm be promptly repaired or replaced and will do so in coordination with designated land owners and tenants. The Applicant will avoid drainage tiles where possible and will subsequently repair any tiles that are impacted. The Applicant will work with landowners to minimize impact to the existing drainage system by avoiding tile mains and repairing damaged tiles wherever feasible. Existing drainage ditches will be avoided where possible. A majority of the Project will avoid residential structures and storage facilities used for agricultural operation. A few sheds and outbuildings may be removed in areas utilized for the solar project and those structures have been included in impact total of agricultural land use. However, the applicant is anticipating the avoidance of significant structure removal wherever possible.

Finally, it is important to note that after construction, the impacted areas of the Project Area will be re-vegetated with a mix of native grasses that will enhance soil structure and organic content, stabilize ground cover, reduce soil erosion and storm water runoff, and minimize noxious and invasive plant growth. In addition, native grasses provide pollinator habitat that can benefit nearby agriculture. Once the Project is eventually decommissioned, the land can return back to agricultural use as it operated previously.

Q.13. Will the Project displace or affect any wildlife?

A.13. The Project was specifically designed using predominately open agricultural areas to avoid impacting wildlife, and the Ecological Reports determined that there should be no impacts to threatened or endangered species of plants or animals (or their habitats). Terracon performed an

extensive desktop review of plant and animal life located within the Project Area boundaries and a 0.5-mile buffer surrounding the Project Area boundaries. The review included wildlife conservation areas, sensitive species such as migratory birds and bald eagles, and threatened and endangered species within the vicinity of the site. The literature review is found in Section 3.6 ("Wildlife Resources") of the ERA Report (Exhibit G) attached to the Application. Terracon determined that the Project Area and 0.5-mile buffer are not known to provide adequate habitat for sensitive bird species, and that there are no records of bald eagle nests. Terracon determined that the federal- or state-listed species that could potentially be present in the area would be expected to inhabit the wooded areas or associated streams observed on-site. Terracon concluded, however, that there are only minimal impact to wooded areas located on-site and no planned instream work. As such, for the majority of listed species, the proposed work is "not likely to affect."

Based on the desktop evaluation of listed species and potential habitat, there is potentially suitable habitat onsite for three federally-listed species; Northern long-eared bat (*Myotis septentrionalis*), Indiana bat (*Myotis sodalis*), and the Running buffalo clover (*Trifolium stoloniferum*). Due to the presence of suitable habitat for the Indiana bat and Northern long-eared bat, any tree clearing would be performed seasonally (from October 1 to March 31). It is my understanding that this will be a condition of the Certificate as well. In addition, an incidental take of Northern long-eared bats is excepted in this location under the 4(d) rule. No suitable habitat was observed for the Running buffalo clover, which resulted in a no effect finding. While on-site habitat was not specifically identified for the state-protected loggerhead shrike, at the request of Ohio Department of Natural Resources (ODNR), construction of any potential loggerhead shrike preferred nesting habitat types shall be avoided during the species' nesting period of April 1 through August 1. As such, vegetative clearing and construction in vegetated/wooded areas will

be avoided during this time period consistent with the tree clearing restrictions for the protected bats.

Overall, the Project has prioritized avoidance measures for sensitive habitats such as eliminating the need for clearing of forested areas wherever possible, total avoidance of impact to potentially jurisdictional wetland features, and no proposed in-stream work. The Applicant will also utilize mitigation procedures to further minimize impacts to ecological resources on-site, such as vegetative/tree clearing and construction in vegetated/wooded areas occurring outside of sensitive species roosting/nesting seasons. Moreover (and as mentioned earlier) after construction, the impacted areas of the Project Area will be re-vegetated with a mix of native grasses that will provide pollinator habitat and can benefit nearby agriculture.

Q.14. Are solar panels safe?

A.14. Yes, solar panels are generally safe. Solar panels contain only very small, often only trace, amounts of hazardous substances, all of which are safely encased in glass. Even if damaged by breakage or fire, solar panels are exceedingly unlikely to cause any contamination. Further, the operation of the solar generation facility should not produce any hazardous waste or wastewater. The only potential hazards associated with solar panels would be from the high and low voltage equipment directly on the Project site that are typical and standard with energy projects. However, proper protection measures, informational manuals and proper labeling/security will be part of all processes and procedures during development, construction and operation of the Project. In fact, it is my understanding that Hecate has already had a safety training meeting with the local fire departments and Hecate has made clear that it will comply with all safety standards set by the Occupational Safety and Health Administration and National Fire Protection Association during construction to ensure installation is safe.

Q.15. How will the Project be decommissioned and will there be any hazardous substances from the solar panels left behind on the land?

A.15. The Project should have only a slight impact on the land, and the components requiring removal at the end of the Project's useful life, or in the unexpected case that Project is abandoned, will be relatively easy to decommission. It is unlikely there will be any hazardous substances from the solar panels left behind as the solar equipment will be removed from the Project site in its entirety.

The racking will be affixed to the land with simple posts that are driven or rotated into the ground, probably to a depth of no more than eight (8) feet. Racking will not have concrete foundations. The Inverters and pyranometers will be installed on pre-fabricated foundations, which can be lifted out of place, versus poured foundations. Although the equipment for the Project Substation may be installed on poured concrete, it will not cover a large area. Access Roads will be constructed of aggregate material or covered in grass (not paved). The DC Collector System and the buried portions of the AC Collector System will be buried more than three (3) feet below grade and, therefore, need not be removed to return farm fields to cultivation.

As mentioned above, the operation of the Project should not produce any hazardous waste or wastewater, so it is not expected that the decommissioning of the Project will entail the need to conduct any soil or groundwater remediation. The only materials that may be left on the Project Area are roads desired by the property owner, lines buried at least three (3) feet below grade, and possibly piles (if any) from racking broken off more than three (3) feet below grade. Also as mentioned above, solar panels contain only very small, often only trace, amounts of hazardous substances, all of which are safely encased in glass. Even if damaged by breakage or fire, solar panels are exceedingly unlikely to cause any contamination necessitating remediation of soil or

water. Any broken solar panels would be addressed as soon as possible upon identification. Ultimately, Applicant will develop a comprehensive plan that will outline the responsible parties, schedules, and projected costs for decommissioning the Project and restoring the Project Area to substantially its preconstruction condition.

Q.16 Has the modification to the Project Footprint, adding 95-acres, affected the Application or studies in any way? If so, how?

A.16 The additional approximately 95-acre parcel should result in no additional impacts within the Project area or Project footprint. Studies have been updated in the modification filed on February 20, 2019. My testimony prior to this question notes where there are changes resulting from the additional expansion parcel.

Q.17. What is your assessment of the overall environmental impact of the Project?

A.17. In my view, the Project is well-sited. It takes advantage of open, agricultural land to minimize the need for clearing. It is specifically designed to avoid impacts to potentially jurisdictional wetlands and waters, and it avoids impacts to threatened or endangered species. I would recommend that certain conditions in the Staff Report of Investigation issued on March 4, 2019 be modified based on the avoidance measures the Project has taken.

For instance, Condition 22 regarding the requirement to have an environmental specialist on site during construction activities appears unnecessary. The Project will not impact any potentially jurisdictional wetlands and waters or protected species or habitat, with the exception of minimal vegetative/tree clearing potentially used by protected bats and the loggerhead shrike. Clearing and construction will occur fully outside of the bat roosting season and loggerhead shrike nesting season to avoid any impacts to those species. Also, Condition 23 regarding the notification of Staff, the ODNR, and the USFWS if state or federal listed species are encountered during

construction activities appears unnecessary for the same reasons – no potential threatened or endangered species of plants or animals (or habitat for the same) should be impacted by the Project based on the proposed mitigation measures and avoidance of sensitive areas.

Q.18. Does this conclude your testimony?

A.18. Yes, but I reserve the right to present any additional testimony in support of any stipulation or rebuttal testimony.

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Summary: Testimony Direct Testimony of Emily Kosmalski electronically filed by Ms. Karen A. Winters on behalf of Hecate Energy Highland LLC