Staff Report of Investigation

Kingwood Solar Project Kingwood Solar I, LLC

Case No. 21-0117-EL-BGN

October 29, 2021



Mike DeWine, Governor | Jenifer French, Chair

In the Matter of the Application of Kingwood Solar I,)	
LLC for a Certificate of Environmental Compatibility)	Case No. 21-0117-EL-BGN
and Public Need.)	

Staff Report of Investigation

Submitted to the OHIO POWER SITING BOARD

BEFORE THE POWER SITING BOARD OF THE STATE OF OHIO

In the Matter of the Application of Kingwood Solar I, LLC for a Certificate of Environmental Compatibility and Public Need.

Case No. 21-0117-EL-BGN

Chair, Public Utilities Commission Director, Department of Agriculture Director, Department of Development Director, Environmental Protection Agency Director, Department of Health Director, Department of Natural Resources Public Member Ohio House of Representatives Ohio Senate

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To the Honorable Power Siting Board:

In accordance with the Ohio Revised Code (R.C.) 4906.07(C) and rules of the Ohio Power Siting Board (Board), the staff of the Public Utilities Commission of Ohio (Staff) has completed its investigation in the above matter and submits its findings and recommendations in this Staff Report for consideration by the Board.

The findings and recommendations contained in this report are the result of Staff coordination with the following agencies that are members of the Board: Ohio Environmental Protection Agency, the Ohio Department of Health, the Ohio Department of Development, the Ohio Department of Natural Resources, and the Ohio Department of Agriculture. In addition, Staff coordinated with the Ohio Department of Transportation, the Ohio Historic Preservation Office, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers.

In accordance with R.C. 4906.07(C) and 4906.12, copies of this Staff Report have been filed with the Docketing Division of the Public Utilities Commission of Ohio to be served upon the Applicant or its authorized representative, the parties of record, and pursuant to Ohio Administrative Code 4906-3-06, the main public libraries of the political subdivisions in the project area.

The Staff Report presents the results of Staff's investigation conducted in accordance with R.C. Chapter 4906 and the rules of the Board, and does not purport to reflect the views of the Board nor should any party to the instant proceeding consider the Board in any manner constrained by the findings and recommendations set forth herein.

Respectfully submitted,

Meren White

Theresa White Executive Director Ohio Power Siting Board

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I. EXECUTIVE SUMMARY

The authority of the Ohio Power Siting Board (Board or OPSB) is prescribed by Ohio Revised Code (R.C.) Chapter 4906. R.C. 4906.10 specifies that the Board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the Board, unless it finds and determines eight specified criteria. Staff investigated the application presented by Kingwood Solar I, LLC (Applicant) and recommends that the Board deny the Applicant's request for a certificate of environmental compatibility and public need, due to its inability to establish one of the eight statutory criteria.

Specifically, Staff recommends the Board find that the Applicant has failed to establish whether the facility will serve the public interest, convenience, and necessity as required under R.C. 4906.10(A)(6).

Although not recommended, in the event the Board determines that a certificate should be granted, Staff has proposed conditions for the Board's consideration in the certificate.

II. POWERS AND DUTIES

OHIO POWER SITING BOARD

R.C. 4906.03 authorizes the Board to issue certificates of environmental compatibility and public need for the construction, operation, and maintenance of major utility facilities defined in R.C. 4906.01. Included within this definition of major utility facilities are: electric generating plants and associated facilities designed for, or capable of, operation at 50 megawatts (MW) or more; electric transmission lines and associated facilities of a design capacity of 100 kilovolts (kV) or more; and gas pipelines greater than 500 feet in length and more than nine inches in outside diameter, and associated facilities, designed for transporting gas at a maximum allowable operating pressure in excess of 125 pounds per square inch. In addition, pursuant to R.C. 4906.20, the Board authority applies to economically significant wind farms, defined in R.C. 4906.13(A) as wind turbines and associated facilities with a single interconnection to the electrical grid and designed for, or capable of, operation at an aggregate capacity of five MW or greater but less than 50 MW. R.C 4906.13 excludes from economically significant wind farms, one or more wind turbines and associated facilities that are primarily dedicated to providing electricity to a single customer at a single location and that are designed for, or capable of, operational at an aggregate capacity of less than 20 MW, measured at the customer's point of interconnection (POI) to the electrical grid.

Membership of the Board is specified in R.C. 4906.02(A). The voting members include: the Chairperson of the Public Utilities Commission of Ohio (PUCO or Commission) who serves as Chairperson of the Board; the directors of the Ohio Environmental Protection Agency (Ohio EPA), the Ohio Department of Health (ODH), the Ohio Department of Development (ODOD), the Ohio Department of Agriculture (ODA), and the Ohio Department of Natural Resources (ODNR); and a member of the public, specified as an engineer, appointed by the Governor from a list of three nominees provided by the Ohio Consumers' Counsel. Non-voting Board members include four members of the Ohio General Assembly (with alternates) selected by leadership from each house of the Ohio General Assembly.

NATURE OF INVESTIGATION

The Board has promulgated rules and regulations, found in Ohio Administrative Code (Ohio Adm.Code) 4906:1-01 et seq., which establish application procedures for major utility facilities and economically significant wind farms.

Application Procedures

Any person that wishes to construct a major utility facility or economically significant wind farm in this state must first submit to the Board an application for a certificate of environmental compatibility and public need.¹ The application must include a description of the facility and its location, a summary of environmental studies, a statement explaining the need for the facility and how it fits into the Applicant's energy forecasts (for transmission projects), and any other information the Applicant or Board may consider relevant.²

Within 60 days of receiving an application, the Chairperson must determine whether the application is sufficiently complete to begin an investigation.³ If an application is considered complete, the Board or an administrative law judge will cause a public hearing to be held 60 to 90 days after the official filing date of the completed application.⁴ At the public hearing, any person may provide written or oral testimony and may be examined by the parties.⁵

Staff Investigation and Report

The Chair will also cause each application to be investigated and a report published by the Board's Staff not less than 15 days prior to the public hearing.⁶ The report sets forth the nature of the investigation and contains the findings and, in the event the Board determines that a certificate should be granted, conditions recommended by Staff.⁷ The Board's Staff, which consists of career professionals drawn from the staff of the PUCO and other member agencies of the Board, coordinates its investigation among the agencies represented on the Board and with other interested agencies such as the Ohio Department of Transportation (ODOT), the Ohio Historic Preservation Office (OHPO), and the U.S. Fish and Wildlife Service (USFWS).

The technical investigations and evaluations are conducted pursuant to Ohio Adm.Code 4906-1-01 et seq. The recommended findings resulting from Staff's investigation are described in the Staff Report pursuant to R.C. 4906.07(C). The report does not represent the views or opinions of the Board and is only one piece of evidence that the Board may consider when making its decision. Once published, the report becomes a part of the record, is served upon all parties to the proceeding and is made available to any person upon request.⁸ A record of the public hearings and all evidence, including the Staff Report, may be examined by the public at any time.⁹

^{1.} R.C. 4906.04 and 4906.20.

^{2.} R.C. 4906.06(A) and 4906.20(B)(1).

^{3.} Ohio Adm.Code 4906-3-06(A).

^{4.} R.C. 4906.07(A) and Ohio Adm.Code 4906-3-08.

^{5.} R.C. 4906.08(C).

^{6.} R.C. 4906.07.

^{7.} Ohio Adm.Code 4906-3-06(C).

^{8.} R.C. 4906.07(C) and 4906.10.

^{9.} R.C. 4906.09 and 4906.12.

Board Decision

The Board may approve or deny an application for a certificate of environmental compatibility and public need as filed, or modify and approve it upon such terms, conditions, or modifications as the board considers appropriate.¹⁰ The certificate is also conditioned upon the facility being in compliance with applicable standards and rules adopted under the Ohio Revised Code.¹¹

Upon rendering its decision, the Board must issue an opinion stating its reasons for approving, modifying and approving, or denying an application for a certificate of environmental compatibility and public need.¹² A copy of the Board's decision and its opinion is memorialized upon the record and must be served upon all parties to the proceeding.¹³ Any party to the proceeding that believes the Board decision to be unlawful or unreasonable may submit within 30 days an application for rehearing.¹⁴ An entry on rehearing would then be issued by the Board within 30 days and may be appealed within 60 days to the Supreme Court of Ohio.¹⁵

CRITERIA

Staff developed the recommendations and conditions in this *Staff Report of Investigation* pursuant to the criteria set forth in R.C. 4906.10(A), which reads, in part:

The board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the board, unless it finds and determines all of the following:

- (1) The basis of the need for the facility if the facility is an electric transmission line or gas pipeline;
- (2) The nature of the probable environmental impact;
- (3) That the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations;
- (4) In the case of an electric transmission line or generating facility, that the facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability;
- (5) That the facility will comply with Chapters 3704, 3734, and 6111 of the Revised Code and all rules and standards adopted under those chapters and under section 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult

^{10.} R.C. 4906.10(A).

^{11.} R.C. 4906.10.

^{12.} R.C. 4906.11.

^{13.} R.C. 4906.10(C).

^{14.} R.C. 4903.10 and 4906.12.

^{15.} R.C. 4903.11, 4903.12, and 4906.12.

with the office of aviation of the division of multimodal planning and programs of the department of transportation under section 4561.341 of the Revised Code;

- (6) That the facility will serve the public interest, convenience, and necessity;
- (7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929 of the Revised Code that is located within the site and alternative site of the proposed major utility facility. Rules adopted to evaluate impact under division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site; and
- (8) That the facility incorporates maximum feasible water conservation practices as determined by the board, considering available technology and the nature and economics of the various alternatives.

III. APPLICATION

APPLICANT

The Applicant is a wholly owned subsidiary of Vesper Energy Development LLC. Vesper Energy Development LLC is a developer, owner, and operator of utility-scale renewable energy assets. Since its founding in 2015, Vesper Energy has commercialized more than 680 MW of solar projects and a total of three gigawatts of renewable energy and energy storage projects in the United States.

HISTORY OF THE APPLICATION

On February 9, 2021, the Applicant filed a motion for waiver and request for approval to hold an alternative public informational meeting (PIM). The motion was granted.

On March 11, 2021, the Applicant filed a pre-application notification letter regarding the project.

On March 26, 2021, the Administrative Law Judge filed an entry granting the waiver of the requirement that the PIM be held in-person, in the area in which the project is to be located.

On March 30, 2021, the Applicant held web-based and telephone-based public informational meetings for the project.

On April 16, 2021, the Applicant filed the Kingwood Solar Facility application as well as a motion for protective order and memorandum in support.

On April 27, 2021, a motion to intervene was filed by the Cedarville Township Board of Trustees.

On May 6, 2021, a motion to intervene was filed by the Xenia Township Board of Trustees.

On May 13, 2021, a motion to intervene was filed by the Miami Township Board of Trustees.

On May 17, 2021, a motion to intervene was filed by In Progress LLC.

On May 18, 2021, a motion to intervene was filed by the Tecumseh Land Preservation Association.

On June 3, 2021, the Applicant filed a response to the first set of data requests received from Staff.

On June 9, 2021, the Applicant filed a response to the second set of data requests received from Staff.

On June 15, 2021, the Executive Director of the OPSB issued a letter of compliance regarding the application to the Applicant.

On June 25, 2021, a motion to intervene was filed by Citizens for Greene Acres (CGA).

On July 14, 2021, a motion to intervene was filed by Miami Township.

On July 21, 2021, a motion to intervene was filed by Greene County Board of Commissioners.

On July 27, 2021, the Applicant filed a response to the fourth set of data requests received from Staff.

On August 3, 2021, the Applicant filed a response to the third set of data requests received from Staff.

On August 5, 2021, a motion to intervene was filed by Ohio Farm Bureau Federation.

On August 26, 2021, the Administrative Law Judge issued an entry ordering, among other things, that the hearings in this matter be scheduled and granted intervention to: Cedarville Township; Xenia Township; Miami Township; In Progress, LLC; Greene County Commissioners; OFBF CGA Petitioners.

On September 28, 2021, the Applicant filed a supplemental response to the data requests received from Staff.

On October 28, 2021, the Greene County Board of Commissioners passed a resolution in which it found that the application of Kingwood Solar I, LLC is incompatible with the general health, safety, and welfare of the residents of Greene County.

On October 29, 2021, the Greene County Board of Commissioners filed the executed resolution.

A local public hearing has been scheduled for November 15, 2021, at 6:00 p.m. in the Assembly Hall of the Greene County Expo Center, 120 Fairground Rd., Xenia, Ohio 45385. The adjudicatory hearing is scheduled to commence on December 13, 2021, at 10:00 a.m.

This summary of the history of the application does not include every filing in case number 21-0117-EL-BGN. The docketing record for this case, which lists all documents filed to date, can be found online at http://dis.puc.state.oh.us.

PROJECT DESCRIPTION

The Applicant intends to construct the Kingwood Solar Facility, a 175 MW solar-powered generating facility in Cedarville, Miami, and Xenia townships in Greene County. The project would consist of large arrays of photovoltaic (PV) modules, commonly referred to as solar panels, ground-mounted on a tracking rack system. The approximately 1,025-acre project would be located within a 1,500-acre project area comprised of private land secured by the Applicant through agreements with the landowners. The project would include associated facilities such as access roads, underground electric collection lines, pyranometers, inverters and transformers, and a collection substation. The project would be secured by perimeter fencing which would be at least seven-foot tall and accessed through gated entrances. The Applicant applied a setback of 25 feet from the edge of public roads to the fence line of the facility. In addition, the fence line would be located at least 20 feet inside the fence line, increasing the total setback between PV panels and public roads, property boundaries, and non-participating residences.

Solar Panels and Racking

The solar panels would be attached to metal racking. The racking would include steel piles driven approximately five to 10 feet into the ground. The solar panel arrays would be grouped in large clusters that would be fenced in with gated entrances. The highest point of each module would not exceed 14 feet. The project's arrays would be mounted on a single-axis tracking system that would rotate east to west to track the sun as it moves through the sky each day. Based on the total generating capacity of 175 MW, the Applicant anticipates using approximately 410,000 panels.

The Applicant has not selected a panel model at this point and states that panel technology is rapidly advancing, both from a cost and performance perspective, which requires final panel selection to occur close to the commencement of construction.

Collection System

The Applicant would install an underground collector system made up of a network of electric and communication lines that would transmit the electric power from the solar arrays to a central location. The Applicant proposes to install approximately 5.7 miles of buried electric cable lines.

The underground lines would be installed by direct burial method or horizontal directional drilling (HDD). The below grade portion of the collector system would be buried at a depth of at least three feet.

The electricity from the solar panels would be generated in direct current (DC). DC power from the solar panels would be delivered to circuits, which would be routed through cable trays, then to combiner boxes. Power from the combiner boxes would be transmitted to groups of components, collectively called an inverter, which would include a DC-to-alternating current (AC) inverter, a step-up transformer that would increase the voltage to 34.5 kV, and a cabinet containing power control electronics. This would be housed in a power conversion station mounted on a concrete foundation. The facility would include approximately 55 inverters.

Substation and Switchyard

The facility substation would occupy approximately one acre of land. The substation and switchyard are proposed side by side, and located just south of Wilberforce Road, in the northeastern portion of the project area. Additional features of the substation include collection line feeders, breakers, metering/relaying equipment, disconnect switches, an equipment enclosure for power control electronics, a lightning mast, and a main power transformer to increase the voltage from 34.5 kV to 138 kV. Together the substation and switch yard would occupy up to approximately 4.5 acres. The substation would connect to the switchyard via a short 138 kV gen-tie. The tallest proposed structure within the collection substation is the lightning mast, which would be approximately 70 feet tall.

Roads

The Applicant proposes to construct approximately 11.3 miles of new access roads for construction, operation, and maintenance of the solar facility. The roads would be gravel-surfaced and a maximum of 20 feet in width.

Construction Laydown Area

Four laydown areas are proposed for the facility and would be located throughout the project area, as depicted in the mapping provided in Appendix A to the application. The laydown areas would total approximately 21 acres and be located on privately-owned land. The laydown areas would accommodate material and equipment storage, parking for construction workers, and construction management trailers. Laydown areas would be equipped with temporary erosion and sediment control methods and would be restored upon completion of the facility.

Meteorological Station

The project is expected to include one solar meteorological station, which would include pyranometers that measure solar resource, ancillary meteorological instruments such as an

anemometer, a wind vane, a barometer, a rain bucket, a temperature probe, and associated communications equipment. The meteorological station would be installed on a pre-cast concrete block foundation or directly on the ground and would be less than 10 feet in height. The meteorological station would occupy less than 400 square feet and, if not located within a fenced area, would be separately fenced and gated.

Lighting

Lighting associated with the project would be limited only to that required for safety and security, in such locations as the gated entrances to the project area, and substation and switchyard. Lighting utilized during facility operation would be downward-facing with side shields, motion activated, or manually operated task lighting.

Fencing

The project would be secured by perimeter fencing which would be at least seven-foot tall and accessed through gated entrances. In areas surrounding panels, the project would utilize 'Deer Fencing' or similarly small-wildlife and agricultural-setting compatible fencing. This type of fencing would be a configuration of woven metal attached to wood posts. The openings in such a woven metal fencing can be potentially bigger than traditional chain link and would incorporate various ground tunnel attachments to aid in small animal crossings. The project substation and laydown yard would have six-foot tall chain link fence with one foot of barbed wire.

Project Schedule

Construction is anticipated to begin in June of 2022 and would last approximately 16 months. The Applicant stated that delays to this timeline could impact project financing, including the Applicant's ability to procure PV modules and facility components. Further, delays may push the in-service date back, causing significant financial burden, according to the Applicant.







Overview Map 21-0117-EL-BGN Kingwood Solar

Maps are presented solely for the purpose of providing a visual representation of the project in the staff report, and are not intended to modify the project as presented by the Applicant in its certified application and supplemental materials.

IV. CONSIDERATIONS AND RECOMMENDED FINDINGS

In the Matter of the Application of Kingwood Solar I, LLC for a Certificate of Environmental Compatibility and Public Need, Staff submits the following considerations and recommended findings pursuant to R.C. 4906.07(C) and 4906.10(A).

Considerations for R.C. 4906.10(A)(1)

BASIS OF NEED

Pursuant to R.C. 4906.10(A)(1), the Board must determine the basis of the need for the facility only if the facility is an electric transmission line or gas pipeline. Therefore, Staff has found an analysis of R.C. 4906.10(A)(1) to be inapplicable to the facility in question.

Recommended Findings

Staff recommends that the Board find that the basis of need as specified under R.C. 4906.10(A)(1) is not applicable to this facility, as the facility is neither an electric transmission line nor a gas pipeline.

Considerations for R.C. 4906.10(A)(2)

NATURE OF PROBABLE ENVIRONMENTAL IMPACT

Pursuant to R.C. 4906.10(A)(2), the Board must determine the nature of the probable environmental impact of the proposed facility. Staff has found the following with regard to the nature of the probable environmental impact.

Overview

As described above, membership of the Board is specified in R.C. 4906.02(A) and its voting membership is comprised of leadership from the PUCO, Ohio EPA, ODH, ODOD, ODA, ODNR, and a member of the public specified as an engineer. Also as described above, the Board's Staff consists of career professionals from member agencies of the Board and their areas of expertise. Therefore, consideration of the nature of the probable environmental impact of a proposed facility incorporates such areas of expertise, as described below.

Community Impacts¹⁶

Land Use

The Applicant states the main land use type that would be impacted by this project is agricultural land. Those structures within a one-mile radius of the project area are residences, a church, and a school. The nearest non-participating residential structure to the project fence line is 32 feet away.¹⁷ The Applicant did not identify this residence as having a "unobstructed direct line-of-sight' in the map provided in the third set of data request responses, potentially due to the existing, deciduous vegetative screening between the residence and where panels would be located. Due to the deciduous nature of the existing vegetative screening, Staff is concerned the project will not be screened from this residence during the winter months. In the event the Board determines that a certificate should be granted, Staff has included a condition that will ensure the project would be screened by vegetation from all non-participating, adjacent, direct-line-of-sight residences at all times of the year.

The Applicant states a total of 1,025 acres would be impacted by converting the land to the proposed solar facility. Of these 1,025 acres, 1,003 acres would be occupied by PV panels. Impacts from construction would be temporary in nature and contained to the properties of participating landowners. Significant impacts to residential, commercial, industrial, recreational, and

^{16. &}quot;The Ohio Department of Development is committed to creating jobs and building strong communities, while ensuring accountability and transparency of taxpayer money and exceptional customer service." (Ohio.gov, Department of Development, https://development.ohio.gov/feat/whatisdsa.htm). R.C. 122.011(A)(6) states, in part, that the department of development shall develop and promote plans and programs designed to assure that state resources are efficiently used, economic growth is properly balanced, community growth is developed in an orderly manner, and local governments are coordinated with each other and the state, and for such purposes may, among other things, cooperate with and provide technical assistance to state departments, regional and local planning commissions, and other appropriate organizations for the solution of community problems. According to R.C. 122.01(B)(1), "'community problems' includes, but is not limited to, taxation, fiscal administration, governmental structure and organization, intergovernmental cooperation, education and training, employment needs, community planning and development, air and water pollution, public safety and the administration of justice, housing, mass transportation, community facilities and services, health, welfare, recreation, open space, and the development of human resources."

^{17.} Application at Appendix P, Table 1.

institutional land uses are not anticipated, and surrounding agricultural land use would continue with minimal disruption. The Applicant states no structures would be removed for this project.

Regional Planning

Comprehensive land use plans provide citizens, elected officials and developers with a conceptual planning framework. These plans may be utilized by governmental actors (such as planning boards) to aid in land use decisions; however, it is important to note that comprehensive plans are primarily authored to provide generalized guidance on market-based growth trends and many areas of these plans are deliberately not written with any binding force. In the project five-mile study area, Greene County is the only government entity that has adopted land use plans. The project would reside within Greene County. Greene County Farmland Preservation Plan sets forth goals for balancing development and agricultural land preservation. The Applicant states the project would allow for future agricultural use after the life of the project and provide economic benefits for both the farmers receiving the lease payments and the local community. Perspectives 2020: A Future Land Use Plan for Greene County promotes growth for the county that is both economically and environmentally advantageous. The Applicant states the project is compatible with these goals as it diversifies the local power supply, does not produce high levels of pollutants, and will create jobs and other economic benefits for the region. On October 28, 2021, the Greene County Board of Commissioners passed a resolution in opposition to this proposed project. Within its resolution, the Greene County Board of Commissioners states its opposition was supported by amendments made to this plan on August 26, 2021 to put forth new conditions regarding agricultural land preservation and utility-scale renewable energy projects.

The proposed solar facility would be expected to aid regional development by increasing local tax revenues. The project is consistent with the protection and preservation of the agricultural industry, in that the facility would provide supplemental income to farmers and the land would be protected from permanent development and could be returned to agricultural production upon decommissioning. With the participation of the Greene County Board of Commissioners as a party to this case, Staff anticipates additional clarity will be added regarding the comprehensive plan during forthcoming phases of the evidentiary process in this case.

Recreation

Construction and operation of the facility would not physically impact any recreational areas. The Applicant identified 62 recreation areas and trails within five miles of the project area. There are four recreation areas within 0 to 0.5 miles for the project area, however based on the Visual Impact Assessment (VIA), the proposed facility is expected to be obscured from most viewpoints due to dense vegetation that is present all year round. The recreation areas within 0.5 to 5 miles all have varying existing vegetation that would act as screening of the facility. It is Staff's opinion that the project will would have minimal impacts on recreational uses, as those resources are still able to be utilized although with potential views to the facility, if approved by the Board.

Aesthetics

Aesthetic impacts and considerations are always measured against the surrounding land use features and potential viewers' subjective opinions. The rural nature of the project vicinity limits the number of potential viewers. Transportation corridors typically are smaller and much more lightly traveled, which reduces the number of viewing impacts. Existing woodlots are also able to offer additional natural screening. The project area predominantly consists of agricultural land. Traffic volume on roads throughout the project area is typically light, thus abating the potential number of viewers.

The solar panels would be installed no higher than 14 feet above ground level. Based on the results of the Applicant's five-mile visual analysis, the solar panels would not likely be visible at locations beyond one and a half-mile from the perimeter of the project, with most visibility occurring within a half mile. According to the Applicant's analysis, solar panels would be screened from approximately 78 percent of the viewshed by intervening vegetation and structures.¹⁸

Staff reviewed the Applicant's visual impact analysis, which includes proposed mitigation in the form of vegetative screening at selected areas around the project site. The Applicant's landscape mitigation plan proposes the installation of planting modules along the facility fence line to soften viewshed impacts and to blend the facility into the existing vegetation. The Applicant's mitigation plan would provide for the installation of numerous plant species that would vary in height and variety, as determined by the current location of sensitive receptors (such as non-participating residential structures) that are adjacent to the proposed facility.

In the event the Board grants a certificate to the Applicant, Staff's landscaping condition requires that the Applicant consult with a certified professional landscape architect. Staff has reviewed Appendix Q, Attachment C, Landscaping Plan, of the application. The Applicant's landscape mitigation plan incorporates appropriate planting measures such as shrub planting or enhanced pollinator plantings, to address impacts to the traveling public, nearby communities, and recreationalists.

In the event the Board grants a certificate to the Applicant, Staff is recommending that the Applicant's landscape and lighting plans incorporate design features to reduce impacts in areas where an adjacent non-participating parcel contains a residence with a direct line of sight to the project's infrastructure. In the event the Board grants a certificate to the Applicant, Staff recommends that aesthetic impact mitigation include good neighbor agreements or other methods in consultation with affected landowners and subject to Staff review.

In addition to vegetative screening mitigation measures, Staff is concerned about aesthetic impacts related to the project's perimeter fencing. In the event the Board grants a certificate to the Applicant, Staff is recommending a condition to ensure that specifications for the selected perimeter fencing be less aesthetically intrusive, more suitable to agricultural land use and small-wildlife permeable, or in essence wildlife friendly. With implementation of Staff's landscape and fencing conditions, the overall expected aesthetic impact would be minimal.

Cultural Resources¹⁹

The Applicant enlisted a consultant to gather background information and complete cultural resources studies for this project. A Phase I cultural archaeological reconnaissance survey was

^{18.} Application at Appendix Q - Part 1, p. 22.

^{19.} According to RC 149.53, "[a]ll departments, agencies, units, instrumentalities, and political subdivisions of the state shall cooperate with the Ohio history connection and the Ohio historic site preservation advisory board in the preservation of archaeological and historic sites and in recovery of scientific information from such sites, and for such purposes shall, whenever practical, by contract or otherwise provide for archaeological and historic survey and salvage work during the planning phases, before work on a public improvement begins or at

completed and submitted to the Ohio Historic Preservation Office (OHPO) for review in June 2021. In the archaeology survey report, which covers 85 percent of the survey area, it was determined that a total of 32 archaeological sites were newly identified within the project area. All 32 sites were recommended as ineligible for listing in the National Register of Historic Places (NRHP) as they either do not appear to offer information important to the prehistory of the region or do not appear to be associated with important persons or events in the region. The remaining 15 percent of the survey area that remains to be surveyed is planned to be completed after the 2021 fall harvest.

In accordance with the ability to review applications effectively, it is necessary for Staff to evaluate the results of all cultural resource field work in a timely manner. In the absence of this information, Staff cannot opine on the potential impacts proposed to a given area of the project. Therefore, in the event the Board grants a certificate to the Applicant, Staff recommends that the Board exclude the 15 percent of the survey area yet to be surveyed for archaeological resources from the certificated project area. Additionally, in the event the Board grants a certificate to the Applicant, prior to filing an amendment or other filing for the Board's consideration on this 15 percent unsurveyed area, Staff recommends the Applicant: (1) complete all steps in the programmatic agreement to survey the 15 percent unsurveyed area; (2) receive OHPO concurrence on the results of the survey; and (3) comply with avoidance measures for any identified archaeological resources.

On August 18, 2021, the Applicant entered into a programmatic agreement with OHPO, in which the Applicant agreed to avoid or mitigate adverse effects on cultural resources determined to be significant or and/or eligible for listing in the NRHP. Staff notes there are several methods to survey land that has not been tilled and recommends the Applicant pursue alternative methods to complete the archaeological survey.²⁰

The Applicant's cultural resource consultant also conducted a historic architecture survey of the project area and an area within a two-mile radius of the project in June 2021. The survey recorded 258 properties of which eight are recommended as eligible for listing on the NRHP. The consultant concluded that for each of the eight sites, the proximity to the project site and the proposed landscape screening, no adverse effect to these structures is expected from the project. The OHPO concurs with these findings.

The OHPO and the Applicant have entered into a memorandum of understanding (MOU) to mitigate for and/or avoid cultural resources with potential adverse effects due to the project and to outline procedures to be followed if previously unidentified sites are discovered during construction. With the implementation of the MOU, and with consideration of the results of the 85 percent of the archaeological survey area completed and Staff's condition excluding the 15 percent unsurveyed area, Staff has determined that minimal adverse environmental impacts to cultural resources would be achieved.

other appropriate times." In Ohio, the Ohio Historic Preservation Office (OHPO) is part of the Ohio History Connection. (See, Ohio History Connection, About Section 106 Review,

<https://www.ohiohistory.org/preserve/state-historic-preservation-office/hpreviews/about-section-106-review>). 20. Such alternate methods to survey non-tilled land include vertical tillage, geophysical survey, shovel testing and/or any mitigation of conventional survey.

Economic Impact

The Applicant states that it would be responsible for the construction, operation, and maintenance of the proposed project. The Applicant will own all of the equipment and structures associated with the proposed project, with the exception of the utility switchyard and the 138 kV gen-tie line that will connect into the existing Greene-Clark 138 kV transmission line. The Applicant currently owns the development rights for all land within the project area.

The Applicant chose to file its estimated capital and intangible costs, estimated operation and maintenance expenses, and estimated delay costs, under seal, and filed a motion for protective order to keep the information confidential. Similar requests have been common practice in many, but not all, solar facility applications.

Total cost comparisons between the proposed facility and other comparable facilities are to be provided in the application. The Applicant referenced *Lazard's Levelized Cost of Energy Analysis (2020)* which states that the average capital costs for utility scale solar PV projects range between \$825 to \$975 per kW and that its costs are within this range. Also, recent solar PV projects of comparable scale undertaken by the Applicant report similar capital costs. Staff notes that a 2021 report published by the Lawrence Berkeley National Laboratory states that utility-scale solar capital costs fell to \$1,400/kWAC in 2020.²¹ Staff verified the Applicant's assertion that the reported average cost of similar facilities is not substantially different from Applicant's estimated costs for the proposed facility and that the reported average cost of the Applicant's similar facilities is not substantially different from Applicant's estimated costs for the proposed facility.

Operation and maintenance expense comparisons between the proposed facility and other comparable facilities are to be provided in the application. The Applicant stated that its recent solar projects of comparable scale report similar O&M costs to the proposed facility. Staff verified that the reported O&M costs of the Applicant's similar facilities is not substantially different from Applicant's estimated costs for the proposed facility. Staff also notes that the National Renewable Energy Laboratory (NREL), in its 2021 update on utility-scale solar costs, reports that O&M costs were \$16/kW/year for fixed-tilt PV facilities and \$17/kW/year for facilities using tracking systems. Staff confirms the Applicant's costs are below this range as well.

The Applicant provided its estimates of the cost of delays in permitting and construction of the proposed facility, although the estimated costs were filed under seal. The Applicant stated that delays could prevent the project from meeting federal Investment Tax Credit deadlines which could result in the loss of those benefits to the Applicant. The Applicant's characterization of its estimated costs of delays appears reasonable to Staff.

The Applicant retained the services of Silverlode Consulting to report on the economic impact of the project.²² Silverlode used the IMPLAN regional economic modeling system, as well as data from the Ohio Department of Taxation, to estimate the economic impact of the construction and operation of the solar facility. Staff verified that the methodology of the IMPLAN model was appropriate for this study and that the estimated impacts reported by the Applicant are reasonable.

^{21.} Bolinger, Mark., Seel, Joachim., Warner, Cody., Robson, Dana. 2021. Utility-Scale Solar, 2021 Edition, Lawrence Berkeley National Laboratory, Tracking the Sun (lbl.gov).

^{22.} Silverlode is a multi-disciplinary consulting firm that performs fiscal and economic impact analysis for projects across various industries.

In this model, "earnings" are comprised of direct (on-site) wages, indirect (supply-chain labor) wages, and induced (through spending by persons in first two categories). "Output" in this model refers to the value of goods and services produced by direct, indirect, and induced labor. Based on the results of the IMPLAN model analysis conducted by Silverlode, the project is expected to have the following impacts:

<u>Jobs</u>

- 440 construction related jobs for the state of Ohio
- 23 long-term operational jobs for the state of Ohio

<u>Earnings</u>

- \$32.7 million in local earnings during construction for the state of Ohio
- \$7.7 million in annual earnings during facility operations for the state of Ohio

<u>Output</u>

- \$112.1 million in output during construction of the facility for the state of Ohio
- \$1.7 million in annual output during facility operations for the state of Ohio

The project is estimated to generate between \$1.2 million and \$1.5 million annually for Greene County taxing districts. This estimate is based on a proposed Payment in Lieu of Taxes (PILOT) plan in which the Applicant would pay between \$7,000/MW and \$9000/MW annually for a total of 175MW. At this time, the Applicant has not entered into a PILOT agreement with Greene County.

Glare

Glare is the phenomenon where sunlight reflects from a surface to create a duration of bright light. Glare also encompasses glint, which is a momentary flash of bright light. Potential impacts of this reflection from solar panel(s) could be a brief reduction in visibility, afterimage, a safety risk to pilots, or a perceived nuisance to neighbors. The Applicant considered the potential effects of glint and glare in the design of the solar array layout and how the panels would be operated.

Solar panels are designed to absorb as much sunlight as possible with minimal reflectivity and include an anti-reflection coating. The Applicant conducted a glint and glare analysis to identify any potential impacts along local roads within the project area.²³ To perform the analysis of glare, the Applicant used the ForgeSolar Solar Glare Hazard Analysis Tool (SGHAT) which was developed by Sandia National Laboratories to analyze potential glare at sensitive receptor locations. This software is commonly used by solar facility developers to determine the effect of solar glare. Glare is classified in three categories in the SGHAT tool: (1) the green type, which is associated with a low potential for temporary after-image when observed prior to a typical blink response time; (2) the yellow type, which is associated with a potential for temporary after-image when observed prior to a typical blink response time; and (3) the red type, which is associated with the permanent retinal damage when observed prior to a typical blink response time. The Applicant found that no glare (i.e., no minutes of either green, yellow, or red type) from the project is predicted to vehicles using the roadways. Staff agrees with the study results. Staff notes that aesthetic impact mitigation measures that include vegetative plantings may also further reduce

^{23.} Application at Appendix Q.

potential impacts as part of a landscape and lighting plan, which, in the event the Board determines that a certificate should be granted, Staff has recommended for this project.

Decommissioning

The Applicant estimates that the solar facility can operate for 35 years or more. The Applicant has prepared a decommissioning plan and total decommissioning cost estimate range of \$6,000,000 to \$10,000,000. Staff has reviewed that decommissioning plan.²⁴

According to the Applicant's plan, at the end of the useful life of the facility, the solar facility would be decommissioned, and the land be returned to its current use as agricultural land, or some other beneficial use desired by the landowner. Prior to the start of any decommissioning activities, the Applicant would apply for and obtain applicable federal, state, and local permits. The decommissioning sequence consists of but is not limited to: de-energize power to the solar facility; disconnect aboveground wirings, cables, and electrical interconnections; remove aboveground facilities, including wiring, PV modules, module racking, string inverters, and panel boards; ship solar panels to a recycling center; grade the land; mechanically remove steel piles; and remove concrete pads.

The collector substation and associated facilities would be removed unless the landowner determines that the electrical service line would be beneficial for future use of the site.

The perimeter fence and access roads would be removed last. These would not be removed if the landowner determines that the fence and access roads would be beneficial for future use of the site. The Applicant would then return areas to prior use through re-vegetation and reseeding to match the existing onsite groundcover. At the time of decommissioning, panels and fencing would be recycled, or properly disposed in accord with regulations in effect at that time.

The Applicant stated that it anticipates decommissioning activities and restoration to occur over and be completed in a six to 12-month period. The majority of equipment (such as solar panels, racking, inverters, and electrical collection lines) would be removed within the first six months. Based on the weather dependent nature of site restoration, the fence and access road removal, soil preparation would take another six months. In the event the Board grants a certificate to the Applicant, Staff recommends that the updated decommissioning plan include a requirement to monitor the site to ensure successful revegetation and rehabilitation. Also, in the event the Board grants a certificate to the Applicant, Staff recommends a timeframe be included in the draft decommissioning plan where the majority of equipment is removed within a year.

In the event the Board grants a certificate to the Applicant, the Applicant would also provide for financial security to ensure that funds are available for decommissioning/land-restoration. Specifically, the Applicant states that the financial guarantee could be in the form of cash, parental guarantee, letter of credit, or performance bond. The Applicant also intends that the amount of financial security would come from an estimate developed and signed by an Ohio Professional Engineer and account for the salvage value of the project facilities to be removed. The Applicant also stated that the decommissioning estimates, provided by an Ohio Professional Engineer, would be updated every five years.

^{24.} Application at page 34.

In the event the Board grants a certificate to the Applicant, Staff recommends that at least 30 days prior to the preconstruction conference, the Applicant shall submit an updated decommissioning plan and total decommissioning cost estimate without regard to salvage value on the public docket that includes: (a) a provision that the decommissioning financial assurance mechanism include a performance bond where the company is the principal, the insurance company is the surety, and the Ohio Power Siting Board is the obligee; (b) a timeline of up to one year for removal of the equipment; (c) a provision to monitor the site for at least one additional year to ensure successful revegetation and rehabilitation; (d) a provision that the performance bond is posted prior to the commencement of construction; (e) a provision that the performance bond is for the total decommissioning cost and excludes salvage value; (f) a provision to coordinate repair of public roads damaged or modified during the decommissioning and reclamation process; (g) a provision that the decommissioning plan be prepared by a professional engineer registered with the state board of registration for professional engineers and surveyors; and (h) a provision stating that the bond shall be recalculated every five years by an engineer retained by the Applicant.

Wind Velocity

The Applicant has indicated that the facility would be designed and installed to withstand and minimize potential damage from high-wind occurrences. The support piles for the panels and racking would be made of steel and would be installed at sufficient depths, from seven to 12 feet, to prevent the movement of the associated equipment from wind and counteract freeze heaving. The Applicant indicated that the project would be designed using the ASCE Risk Category 1 factors from building codes and a maxim expected three-second gust from the applicable building code.

The tracking systems currently are rated for wind speeds ranging from 140 to 145 miles per hour.²⁵ Representative tracking systems that are currently under consideration by the Applicant are included in Exhibit J of the Application. Stow features also can tilt panels to a certain angle to reduce wind loading on the solar panels during high wind speeds events. The Staff have found that components of the proposed facility are generally not susceptible to damage from high winds except for tornado-force winds, because generally panels and racking systems proposed have wind speed design load ratings inherent in their design.

Roads and Bridges²⁶

The Applicant has yet to finalize its delivery route, although it is expected that deliveries to the project site would be by way of State Route 72, Clifton Road, and Wilberforce-Clifton Road. These three roads and adjacent lesser roads will also be used to access the project area.

The Applicant conducted a route evaluation study to identify viable means of accessing the project area. Traffic patterns, bridge conditions, and road surface conditions were identified and analyzed. According to the Applicant's Transportation Management Plan²⁷, all bridges are in adequate condition along the proposed transportation routes. Road surface conditions were rated mostly

^{25.} Application at Appendix J.

^{26.} The entity responsible for maintaining roads and bridges within Ohio depends on many factors. See, e.g., ODOT, *Roadway Infrastructure Maintenance Responsibility Manual*,

https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/maintenance-operations/rimr/rimr).

^{27.} Application at Appendix H.

good by the Applicant. No load restrictions were identified. No modifications to transportation infrastructure are anticipated.

Conventional heavy equipment which does not require special permitting would make up the majority of construction traffic. The electrical transformer is likely to be overweight and would require special permitting and route coordination for delivery. The Applicant stated that an increase in truck traffic would be anticipated during construction for the purpose of project area equipment access and equipment and material deliveries but does not anticipate significant changes to traffic patterns. Post construction and operation of the solar facility, the Applicant does not anticipate any additional traffic for the project beyond routine maintenance. No road closures are to be expected.

Any damaged public roads and bridges would be repaired promptly to their previous or better condition by the Applicant under the guidance of the appropriate regulatory authority.

Noise

Noise impacts from construction activities would include site clearing, installation of mechanical and electrical equipment, and commissioning and testing of equipment. Many of the construction activities would generate significant noise levels during the 16 months of construction. However, the adverse impact of construction noise would be temporary and intermittent, would occur away from most residential structures, and would be limited to daytime working hours. The Applicant would use mitigation practices such as limiting construction activities to daylight hours and establishing a complaint resolution process.

Operational noise impacts for a solar generation facility would be relatively minor and occur only during the day. Operational noise sources include inverters and tracking motors. The step-up transformer at the new substation and the inverters may operate at night but the noise impact would also be relatively minor.

The Applicant conducted an ambient noise level study in order to understand the existing noise levels near the proposed facility. Noise impacts to non-participating receptors were modeled using the proposed inverter model and substation transformer.²⁸ No non-participating receptors were modeled to receive noise impacts greater than the daytime ambient noise level plus five dBA. Therefore, the project would be expected to have minimal adverse noise impacts on the adjacent community. If an inverter model different than the proposed inverter model is chosen, the Applicant would submit a noise report confirming that no non-participating receptors were modeled to receive noise impacts greater than the daytime ambient noise level plus five dBA.

^{28.} For the sound propagation model, the model used for the inverter/transformer is the Sungrow SG3425/3600UD-MV, and for the substation transformer is the Prolec GE (ONAN 15,000 kVA ONAF 28,000 kVA).

Geology²⁹

Surficial/Glacial³⁰

The project area lies within the glaciated margin of the state and includes several Wisconsinan-age glacial features. The southeast border of the project area in Cedarville and Miami townships is comprised of end moraine deposits. Hummocky ridges higher than adjacent terrain occurs in this area. A high-level outwash terrace deposit is present in the southwest reach of the project area in Xenia Township. The remainder of the project area is made up of ground moraine deposits. Terrain is flat to gently undulating. A boulder belt is mapped in this ground moraine.³¹ Glacial drift throughout most of the study area is between zero and approximately 243 feet thick. Drift is relatively thin (less than 30 feet thick) throughout most of the project area.³²

Bedrock³³

Three different uppermost bedrock units occur within the project area. The uppermost bedrock unit in the project area is the Cedarville Dolomite, Springfield Dolomite, Euphemia Dolomite Undivided. This bedrock represents the majority of the project area. Characteristics of the Cedarville dolomite include vuggy porosity which can be associated with the development of karst geology features. Underlying this unit is the Massie Shale, Laurel Dolomite, Osgood Shale, Dayton Limestone, and Brassfield Limestone Undivided. Underlying this unit and being the uppermost bedrock in the southwestern portion of the project area is the Ordovician Undivided.

^{29.} According, in part, to R.C. 1505.01, the ODNR's division of geological survey "[s]hall advise, consult, or collaborate with representatives of agencies of the state...on problems or issues of a geological nature when requested by such an agency...." One of the missions of the ODNR Division Geological Survey is "to provide geologic information and services needed for responsible management of Ohio's natural resources." (ODNR, Division of Geological Survey, About the Division, <a href="https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/division-of-geologic-survey/division-of-geologic-survey/livision-of-geologic-survey/livision-of-geologic-survey/livision, and geological hazards. According to ODNR a "geologic hazard or 'geohazard' is a geologic condition, either manmade or natural, that poses a potential danger to life and property. Ohio is home to a number of potential geohazards, including karst, mine subsidence, earthquakes, landslides, and shore erosion." (ODNR, Geologic Hazards, https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR a "geologic hazard or 'geohazard' is a geologic condition, either manmade or natural, that poses a potential danger to life and property. Ohio is home to a number of potential geohazards, including karst, mine subsidence, earthquakes, landslides, and shore erosion." (ODNR, Geologic Hazards, https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/geologic-hazards).

^{30. &}quot;Since its inception in 1837, the ODNR Division of Geological Survey has researched and mapped the state's glacial and surficial geology. Today, highly detailed mapping and meticulous studies continue to inform and broaden our knowledge of Ohio's glacial past." (ODNR, Glacial Geology in Ohio https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/glacial-geology).

[&]quot;Since collaborating with the U.S. Geological Survey to release the first statewide Glacial Map of Ohio in 1961, the ODNR Division of Geological Survey has mapped the unconsolidated geologic materials found at Ohio's surface with increasing detail." (ODNR, Glacial & Surficial Geologic Maps,

<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/glacial-geology/glacial-surficial-geologic-maps>).

^{31.} June 8, 2020 ODNR Geological Survey Review.

^{32.} ODNR Geology of Ohio Interactive Map https://gis.ohiodnr.gov/website/dgs/geologyviewer/#

^{33. &}quot;The ODNR Division of Geological Survey has had a long history of generating bedrock geologic maps for the state of Ohio since its inception in 1839. The most recent iteration of the geologic map of Ohio was created by seamlessly piecing together 788 individual 7.5-minute bedrock geologic quadrangles." (ODNR, Bedrock Geology,<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/geologic-survey/bedrock-geology/>).

Karst³⁴

There are 20 known or suspected karst features within one mile of the project area. These include five field verified karst points, eleven features that have been field visited and are suspected to be karst and four springs. Four of these features fall within the project area and are all classified as field visited suspected karst.³⁵ None of the features discussed above fall within the project footprint per Figure 8-4 of the Application which documents the presence of "probable" karst geology and known karst features. The Applicant indicates probable karst areas represent 85 acres of the 1,500 acre project area.³⁶ The Applicant also indicates that the known karst features will not constrain the project.³⁷

Oil/Gas and Mining³⁸

The ODNR has record of no oil and gas wells within one mile of the proposed project area.

The ODNR does not have record of any mining operations within the project area. The nearest mine is an active limestone surface mine operated by Fairborn Cement Company, LLC. This mine is located approximately two miles west of the project. No known abandoned underground mines are located within several miles of the project area.

Seismic Activity³⁹

Recent geologic history shows Greene County to be at low risk for seismicity caused by earthquakes as only one earthquake has been documented in the county.⁴⁰ The 1925 event epicenter occurred approximately 2.4 miles north of the project area. The next nearest documented event was 3.8 miles away in Clark County. The Applicant assigns a Class D Seismic Site Classification based on boring data, seismic design maps, and in accordance with the International Building Code.⁴¹

^{34.} Karst is a geologic feature formed within carbonate rocks through mineral dissolution caused by movement of water. Most common features include the formation of caves or the formation of sinkholes at the surface. Generally, karst features, and the likelihood of karst development are most prevalent in areas where the carbonate bedrock is overlain by 20 feet or less of glacial till material. Limestone and dolomite are the most common carbonate bedrock. Generally, Limestone is more prone to dissolution than dolomite.

^{35.} June 8, 2020 ODNR Geological Survey Review.

^{36.} Applicant's October 12, 2021 response to Staff data request.

^{37.} Application at page 65.

^{38.} ODNR Division of Oil & Gas states: "[t]he Division is responsible for regulating Ohio's oil and natural gas industry and for the protection of all Ohioans and our environment while ensuring the state's abundant natural resources are managed properly." (ODNR, Division of Oil & Gas,

< https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/oil-gas/division-of-oil-and-gas>).

^{39.} The ODNR Division of Geological Survey coordinates a 21-station network of seismograph stations throughout the state in order to continuously record earthquake activity. The Ohio Seismic Network (OhioSeis) went online in January 1999 to ensure Ohio has monitoring and coverage 24 hours a day, seven days a week by seismic stations with automatic detection, location and magnitude determination. (ODNR, The Ohio Seismic Network, <hr/><hr/><htps://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/division-of-geologic-survey/ohio-seis>).

^{40.} ODNR Earthquake Epicenters https://gis.ohiodnr.gov/MapViewer/?config=Earthquakes

^{41.} Application at page 9 of Exhibit L (Geotechnical Report by Geotechnology, Inc.)

The Applicant has indicated that no blasting activities are anticipated for the construction or operation of the proposed solar facility, and therefore no blasting-induced seismic activity is anticipated.⁴²

Soils⁴³

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey, the project area consists primarily of soils derived from alluvium, outwash, loess, till and residuum. Russell, Xenia, Rush, Ragsdale, Miamian, Milton and Fincastle are the most common soil series found within the boundaries of the project area. Together, these soils make up over 75 percent of the project area. There is a low to moderate risk of shrink-swell potential in these soils. Slope remains relatively flat, with slope seldom exceeding a 12 percent grade.

Geotechnical Report

A geotechnical report prepared by Geotechnology, Inc. discusses the geotechnical work performed to date. To further evaluate soil properties, 30 borings were advanced to a depth of five to 14 feet below ground level (BGL). The Applicant conducted field electrical resistivity testing and performed laboratory testing on selected soil and bedrock samples to estimate engineering and index properties.⁴⁴

No pile load testing has been completed or is planned. However, pile load testing may be performed in the event karstic areas are discovered during construction.⁴⁵

The geotechnical report recommends a 12-inch aggregate base for access roads. If a stiffer subgrade is required, the report recommends that soft clays be over-excavated to expose stiff subgrade soils, and that the excavated soils be replaced with clayey soils that have been moisture conditioned and compacted to at least 95 percent of the standard Proctor maximum dry density as per American Society for Testing and Materials (ASTM) D698. If clayey soils are used, a separation geotextile should be provided at the interface between the crushed stone and the clayey soils.⁴⁶

Conclusion

Bedrock was encountered within several of the geotechnical borings. The geotechnical report generally describes the bedrock as interbedded, light brown to yellowish brown and gray, medium strong, weathered dolomite with shaly seams and gray, slightly moist, extremely weak, highly

^{42.} Application at Page 53.

^{43.} The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRSC) conducts soil surveys and provides technical assistance to private landowners. (USDA NCRS, *Ohio NRCS Soils*, <https://www.nrcs.usda.gov/wps/portal/nrcs/oh/soils/>).

[&]quot;Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information. Soil surveys can be used for general farm, local, and wider area planning." (USDA NCRS, USDA Web Soil Survey, https://websoilsurvey.nrcs.usda.gov/app/HomePage.htm).

^{44.} Application at page 3 of Exhibit L (Geotechnical Report by Geotechnology, Inc.)

⁴⁵ Applicant's October 12, 2021 response to Staff data request.

^{46.} Application at page 15 of Exhibit L (Geotechnical Report by Geotechnology, Inc.)

weathered shale.⁴⁷ The presence of shallow bedrock may present the need for pre-drilling pile foundations verses conventional pile-driving construction techniques. A boulder zone identified within the project area may also present additional challenges for solar racking pile installation and other subsurface foundations. In cases where the piles achieve premature refusal due to shallow bedrock or to cobbles and boulders in the till, consideration should be given to predrilling the pile locations to the required embedment depth and encasing the piles in concrete.⁴⁸

Conditions necessary for the formation of karst geology features do exist throughout the project area. Should karst features be discovered during construction, the Applicant would consider avoidance or other mitigation measures.⁴⁹

In the event the Board grants a certificate to the Applicant, Staff recommends that the final detailed engineering drawings of the final project design shall account for geological features and include the identity of the registered professional engineer(s), structural engineer(s), or engineering firm(s), licensed to practice engineering in the state of Ohio who reviewed and approved the designs. In the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant provide a final geotechnical engineering report to Staff at least 30 days prior to the preconstruction conference. In the event the Board grants a certificate to the Applicant to the Applicant, Staff recommends that the Applicant provide an Unanticipated Discovery Plan that would address the processes that would be followed by the Applicant in the event undocumented or unanticipated contaminated material were encountered during construction. This shall include detailed plans for remediation of any oil and gas wells within the project area. In the event the Board grants a certificate to the Applicant set and grants a certificate to the Applicant grants a certificate to the Applicant grants a contaminated material were encountered during construction. This shall include detailed plans for remediation of any oil and gas wells within the project area. In the event the Board grants a certificate to the Applicant, Staff also recommends that should karst features be identified during construction, all solar equipment emplacement should attempt to avoid these features.

In the event the Board grants a certificate to the Applicant, based on the data and considerations provided within the application submittal to date, and based on Staff assessment (with consideration and input from the ODNR), and implementation of the recommended conditions, there appears to be no particular geological features within the project area that are incompatible with construction and operation of the proposed solar facility.

^{47.} Application at page 5 of Exhibit L (Geotechnical Report by Geotechnology, Inc.)

^{48.} Application at page 12 of Exhibit L (Geotechnical Report by Geotechnology, Inc.)

^{49.} Applicant's October 12, 2021 response to Staff data request.

Ecological Impacts

Public and Private Water Supplies⁵⁰

There are six private water wells within the project area and approximately 473 water wells within one mile of the project area as indicated by the Applicant and the ODNR.⁵¹ The Applicant has proposed that solar equipment be placed over three of the private water wells within its project area. The Applicant stated that it would coordinate with individual participating landowners within its project area to confirm the location and active/inactive status of identified water wells within the project area. Further, the Applicant would appropriately abandon water wells or implement a sufficient setback to active water wells within the project area to allow for access and maintenance. Staff conferred with ODH which regulates private water wells. ODH indicated that the nearest solar components should be further than the minimum isolation distances outlined in Ohio Adm.Code 3701-28-07 between potential contamination sources and private water wells. Specifically, ODH highlighted Ohio Adm.Code 3701-28-07(F) requires a sanitary isolation radius of 50 feet from any known or possible source of contamination. In the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant indicate whether the nearest solar facility components to each water well within the project area meet or exceed any applicable minimum isolation distances outlined in Ohio Adm.Code 3701-28-07. Specifically, Staff recommends that the Applicant relocate the solar equipment at least 50 feet from each active water well. In the event the Board grants a certificate to the Applicant, Staff also recommends that the Applicant may demonstrate that a particular well is for nonpotable use and relocate solar equipment at least 10 feet from that nonpotable use water well, or seal and abandon the water well, in accordance with Ohio EPA guidelines.⁵²

The Village of Yellow Springs and the Camp Clifton Day Camp's drinking water protection areas, otherwise called source water protection areas (SWPA), each overlap a portion of the project area. Portions of the outer management protection area zones of the Village of Yellow Springs and Camp Clifton Day Camp SWPAs underlay the solar facility's project area, which means that travel time of groundwater to the wells in that protection zone is estimated to be five years or less. The Applicant has also proposed solar equipment to be placed over the inner management zone of the

^{50.} The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. One of the missions of the Ohio EPA is to "ensure compliance with the federal Clean Water Act and works to restore and enhance the integrity of Ohio's waters." Ohio EPA Website, Division of Surface Water, https://www.epa.ohio.gov/dsw/Surface-

Water/LiveTabId/113292#:~:text=Ensures%20compliance%20with%20the%20federal,the%20integrity%20of%20O hio's%20waters.&text=We%20issue%20permits%20to%20regulate,aimed%20at%20improving%20polluted%20stre ams> In carrying out this mission, among other things, the Revised Code provides for the Ohio EPA to administer and enforce laws and regulations regarding water pollution control and safe drinking water. *See e.g.*, RC 6111.041 and RC 6109.04. The Ohio EPA states: "Division of Drinking and Ground Waters ensures compliance with the federal Safe Drinking Water Act and evaluates potential threats to source waters that supply Ohio's more than 4,800 public drinking water systems. The division has a lead role for statewide ground water protection in cooperation with other state and federal agencies, implements a ground water quality monitoring program and provides technical assistance to the Agency's waste management divisions." https://www.epa.state.oh.us/ddagw/ The Division of Drinking Water Program manages the federally delegated drinking water program and implements both state and federal Safe Drinking Water statutes and rules adopted under these laws. https://www.epa.ohio.gov/ddagw/#116665774-about-the-drinking-water-program>.

^{51.} Application at p. 62 and Appendix N.

^{52.} Ohio EPA, Nonpotable Well Standard Guidance,

https://www.epa.ohio.gov/Portals/28/documents/rules/draft/WELL-xx-001_NonpotableWell-08.03.15.pdf (accessed June 7, 2021).

Clifton Day Camp SWPA where travel time of groundwater to the camp's well is estimated to be one year or less.

The Ohio EPA and other regulatory agencies restrict specific activities within SWPAs. Typical examples of restricted activities are concentrated animal feeding operations, landfills, and voluntary brownfield cleanups. The Applicant does not anticipate that construction or operation of the solar facility poses a risk to either the Village of Yellow Spring's or Camp Clifton Day Camp's SWPAs, because the Applicant avers that the construction and operation of the solar project would not be a restricted use within the SWPA. The Applicant further states that it would implement both spill prevention practices and construction stormwater best management practices. However, Staff has conferred with the Ohio EPA about the subject of solar generating facilities that overlap SWPAs. Hence, Ohio EPA encourages communication with the SWPA drinking water operator so that it can be informed and take steps it deems necessary (e.g., drinking water advisories) in the event of a spill or significant panel damage. In the event the Board grants a certificate to the Applicant, Staff recommends that at least 30 days prior to the preconstruction conference, the Applicant submit its final emergency response plan and that the plan include provision(s) to keep the Village of Yellow Springs (e.g., city administrator or water department) and the Camp Clifton Day Camp informed of the status of any spills, significant panel damage, and repair/clean-up schedule. In the event the Board grants a certificate to the Applicant, Staff also recommends that at least 30 days prior to the preconstruction conference, that the Applicant submit a listing of the spill prevention practices or plan to Staff and the Applicant demonstrate that its solar and substation equipment are outside the inner management protection zone(s) for the Camp Clifton Day Camp. Staff notes that the Applicant is considering panels that have been certified to comply with the US EPA's toxicity characteristics leachate procedure (TCLP) test and meet U.S. EPA definition of non-hazardous waste.⁵³ The Applicant has received and addressed several public comments on its website during and after the March 30, 2021 public information meeting pertaining to the low potential for impacts to groundwater from onsite chemical use and solar panels.⁵⁴ To further address these concerns, in the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant demonstrate that the panels proposed for the entire project, including over the outer management zone of the SWPA, do not exhibit the characteristic of toxicity through analysis with the TCLP test.

Surface Waters⁵⁵

The Applicant's consultant Haley & Aldrich Inc. delineated 24 streams and stream segments within the project area, including 14 ephemeral streams, nine intermittent streams, and one

^{53.} Kingwood Solar I, LLC October 12, 2021 Responses to Staff's September 29, 2021 Data Requests, Data Request #18.

^{54.} Kingwood Solar Q & A, Virtual Public Information Meeting, Environmental Impact & Mitigation, Questions 7 to 13, https://kingwoodsolar.com/wp-content/uploads/2021/08/Kingwood-FAQ-Responses-Final-21.08.02.pdf, accessed 10/28/2021.

^{55.} The Ohio EPA website states: "The Division of Surface Water ensures compliance with the federal Clean Water Act and works to increase the number of water bodies that can be safely used for swimming and fishing. The division issues permits to regulate wastewater treatment plants, factories and storm water runoff; develops comprehensive watershed plans aimed at improving polluted streams; and samples streams, lakes and wetlands — including fish, aquatic insects and plants — to determine the health of Ohio's water bodies." (Ohio EPA, About Us: Surface Water, https://www.epa.ohio.gov/About#127147228-surface-water); The U.S. Army Corps of Engineers website states: "The U.S. Army Corps of Engineers (USACE) Regulatory Program involves the

perennial stream. The Applicant has committed to utilizing HDD in all perennial stream crossings for the installation of collection lines thus avoiding any impacts to perennial stream channels. Ephemeral and intermittent stream channels may be crossed via open cut trenching methods if water is not present at the time of construction and field conditions allow. In a response from the Applicant, the Applicant states there would be seven crossings in total considered for open cut trenching and that each of these individual crossings would maintain impacts to be less than 0.1 acres and less than 500 linear feet.

The Applicant delineated six wetlands⁵⁶ within the project area. Project construction would be sited to avoid wetlands, therefore, no temporary or permanent impacts to wetlands are anticipated from the project.

Direct impacts, including the installation of collection lines via open trenching, would be covered under the U.S Army Corps of Engineers Clean Water Act Section 404 Nationwide Permit. The Applicant would also obtain an Ohio National Pollutant Discharge Elimination System (NPDES) General Permit from the Ohio EPA prior to the start of construction. Specifics about how surface waters would be further protected from indirect construction stormwater impacts using erosion and sedimentation controls would be outlined in the Applicant's stormwater pollution prevention plan (SWPPP), which would be required as part of the NPDES General Permit. Staff does not anticipate issues with the Applicant's procurement of these permits. In the event the Board grants a certificate to the Applicant, Staff also recommends the Applicant apply Ohio EPA published Guidance on Post Construction Storm Water Control for Solar Panel Arrays to project construction and operation.

Based on review of Federal Emergency Management Agency 100-year floodplain mapping, no project infrastructure would be located within a 100-year floodplain and no ground disturbing activities would take place within the 100-year floodplain. Therefore, no floodplain permitting would be required.

Threatened and Endangered Species⁵⁷

The Applicant's consultant, Haley & Aldrich Inc., requested information from the ODNR and the USFWS regarding state and federal listed threatened or endangered plant and animal species. Staff

regulating of discharges of dredged or fill material into waters of the United States and structures or work in navigable waters of the United States, under section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act of 1899." (USACE, Obtain a Permit, https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/); The Ohio Department of Natural Resources (ODNR) website states: "The Division of Water Resources manages statewide oversight of dams & levees, floodplains, and the collection and management of data related to the state's water resources." (ODNR, Division of Water Resources, https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/water-resources/waterresources).

^{56.} Wetlands falling within the purview of the Clean Water Act are regulated within Ohio by R.C. 6111, et seq. and Ohio Adm.Code 3745-1-50, et seq. Ohio Adm.Code 3745-1-54 establishes wetland categories.

⁵⁷ Based on agency coordination with the USFWS and ODNR, identified species of concern are, in general, defined as those species that are protected under the federal Endangered Species Act of 1973, as amended (16 U.S.C. §§ 1531-1544) and/or according to the Conservation of Natural Resources within R.C. 1518.01-1518.99; 1531.25; and 1531.99. See also e.g., R.C. 1531.08 states, in part: "In conformity with Section 36 of Article II, Ohio Constitution, providing for the passage of laws for the conservation of the natural resources of the state, including streams, lakes, submerged lands, and swamplands, and in conformity with this chapter and Chapter 1533. of the

gathered additional information through field assessments and review of published ecological information. The following table provides the results of the information requests, field assessments, and document review.

MAMMALS				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
Indiana bat	Myotis sodalis	Endangered	Endangered	Potential to occur as roost trees exist along windrows and wood lot edges. No individuals observed.
Northern Long- eared bat	Myotis septentrionalis	Threatened	Endangered	Potential to occur as roost trees exist along windrows and wood lot edges. No individuals observed.
little brown bat	Myotis lucifugus	N/A	Endangered	Potential to occur as roost trees exist along windrows and wood lot edges. No individuals observed.
tricolored bat	Perimyotis subflavus	N/A	Endangered	Potential to occur as roost trees exist along windrows and wood lot edges. No individuals observed.
		BIRE	DS	
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
upland sandpiper	Bartramia longicauda,	N/A	Endangered	Potential to forage within agricultural fields within the Project Area. No individuals observed
Northern Harrier	Circus cyaneus	N/A	Endangered	Potential to forage within agricultural fields within the Project Area. No individuals observed

Revised Code, the chief of the division of wildlife has authority and control in all matters pertaining to the protection, preservation, propagation, possession, and management of wild animals and may adopt rules under section 1531.10 of the Revised Code for the management of wild animals."

One of the missions of the ODNR is to "conserve and improve the fish and wildlife resources and their habitats and promote their use and appreciation by the public so that these resources continue to enhance the quality of life for all Ohioans." In carrying out this mission, the ODNR considers the "status of native wildlife species [to be] very important" and therefore lists wildlife species needing protection. (ODNR, State Listed Species, https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/wildlife/state-listed-species).

In addition to endangered species, those species classified as "threatened" are considered during OPSB project planning and approval because these species are those "whose survival in Ohio is not in immediate jeopardy, but to which a threat exists. Continued or increased stress will result in its becoming endangered." Id.

		REPTI	LES	
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
spotted turtle	Clemmys guttata	N/A	Threatened	Due to the location, the type of habitat within the project area, this project this species is not likely to be present.
Kirtland's snake	Clonophis kirtlandii	N/A	Threatened	Due to the location, the type of habitat within the project area, this project this species is not likely to be present.
Eastern massasauga	Sistrurus catenatus	Threatened	Endangered	Due to the location, the type of habitat within the project area, this project this species is not likely to be present.
	-	FISH	<u>I</u>	
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
tonguetied minnow	Exoglossum laurae	N/A	Threatened	Historical range. No impacts proposed to perennial streams.
		MUSSI	ELS	
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
clubshell	Pleurobema clava	Endangered	Endangered	Historical range. No impacts proposed to perennial streams.
rayed bean	Villosa fabalis	Endangered	Endangered	Historical range. No impacts proposed to perennial streams.
snuffbox	Epioblasma triquetra	Endangered	Endangered	Historical range. No impacts proposed to perennial streams.
black sandshell	Ligumia recta	N/A	Threatened	Historical range. No impacts proposed to perennial streams.
fawnsfoot	Truncilla donaciformis	N/A	Threatened	Historical range. No impacts proposed to perennial streams.

The ODNR and the USFWS did not identify any concerns regarding impacts to listed plant species. In the event the Board grants a certificate to the Applicant, and the Applicant encounters listed plant or animal species during construction, Staff recommends that the Applicant contact Staff, the ODNR, and the USFWS, as applicable. In the event the Board grants a certificate to the Applicant, Staff also recommends that if the Applicant encounters any listed plant or animal species prior to construction, the Applicant include the location and how impacts would be avoided in a final access plan to be provided to Staff prior to the preconstruction conference.

The project area is within the range of state and federal endangered Indiana bat (*Myotis sodalis*), the state and federal threatened Northern Long-eared bat (*Myotis septentrionalis*), the state endangered Little Brown bat (*Myotis lucifugus*), and the state endangered Tricolored bat (*Perimyotis subflavus*). As tree roosting species in the summer months, the habitat of these species

may be impacted by the project as the Applicant anticipates approximately 25.5 acres of tree clearing for construction of the project. In order to avoid impacts to these listed bat species, the Applicant has committed to adhere to ODNR and USFWS recommended seasonal tree cutting dates of October 1 through March 31 for all trees three inches or greater in diameter, unless further coordination efforts with the ODNR and the USFWS reflects a different course of action.

During the winter months, bats hibernate in caves and abandoned mines, also known as hibernacula. The proposed project is not expected to impact any bat hibernacula.

The project is within range of the state endangered upland sandpiper (*Bartramia longicauda*) and northern harrier (*Circus cyaneus*). These species utilizes' grasslands and pastureland habitat for breeding and nesting. The project area contains approximately 30 acres of habitat representing grasslands or hay and pasture lands. Consultation between the Applicant and the ODNR determined that areas of grassland/pastureland within the project area were of low-quality habitat for these species and that adverse impacts to this species would be unlikely.

Vegetation

Vegetation Community Type	Total (acres)
Cultivated Crops	1,369
Deciduous Forest	19
Developed	6
Hay/Pasture	63
Mixed Forest	22
Wetlands	1.5
Total	1,480.5

The following table reflects the different vegetative communities present in the project area and associated impact for the facility.

The estimated vegetative impact includes the entire project area presented within the application. However, the entire project area would not be developed as part of this project. As a result, permanent impacts associated with this project would be less than the amount shown. Permanent vegetative impacts would occur primarily within agricultural lands. The Applicant has developed a vegetation management plan in which it committed to incorporate pollinator-friendly habitat in accordance with the recommendations of the Ohio Pollinator Habitat Initiative. The Applicant would partner with the Earnest Seed Company to incorporate the planting of their "Monarch-Mix" pollinator/grass mixture. This planting mix has been reviewed and approved by Staff as a sufficient pollinator planting mix. This mix would be planted within the boundaries of the facility as well as underneath solar panels in order to promote the enhancement of habitat for native pollinator species as well as to help prevent the establishment or further propagation of noxious weeds identified in Ohio Adm.Code Chapter 901:5-37. This habitat would enhance the visual appeal of the project, enrich local wildlife habitat, benefit the local farming community, increase plant diversity, and discourage invasive species. This vegetation would be incorporated under and between the panels and in the open areas of the project. This project would be expected to represent a reduced environmental impact when compared to the current land use of agricultural plant production. This is due to the reduction of frequent tilling leading to erosion and sedimentation, and reduced fertilizer and pesticide application. To further assure that these benefits would be realized, in the

event the Board grants a certificate to the Applicant, Staff recommends that the Applicant take steps to prevent establishment and/or further promulgation of noxious weeds.

Recommended Findings

Staff recommends that the Board find that the Applicant has determined the nature of the probable environmental impact for the proposed facility, and therefore complies with the requirements specified in R.C. 4906.10(A)(2), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

Considerations for R.C. 4906.10(A)(3)

MINIMUM ADVERSE ENVIRONMENTAL IMPACT

Pursuant to R.C. 4906.10(A)(3), the proposed facility must represent the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, along with other pertinent considerations.

Site Selection

The Applicant's site selection process focused on the following criteria: strong solar resources, manageable access to the bulk power transmission system, positive feedback from landowners, compatible land-use characteristics, and few environmentally sensitive areas. In preparation of the application, the Applicant engaged local officials and the public. The Applicant states local governmental guidance and public input have been incorporated into the project design where feasible, however, Staff notes the Green County Board of Commissioners signed a resolution on October 28, 2021 stating its position that the proposed project "is incompatible with the adopted policies for development of renewable energy and farmland preservation." Staff further enumerates on this resolution below in relation to its Considerations for R.C. 4906.10(A)(6).

Minimizing Impacts

The OHPO and the Applicant have entered into an MOU to mitigate for and/or avoid cultural resources with potential adverse effects due to the project and to outline procedures to be followed if previously unidentified sites are discovered during construction. Further, in the event the Board grants a certificate to the Applicant, Staff recommends that the Board exclude the 15 percent of the survey area yet to be surveyed for archaeological resources from the certificated project area. Through both Staff's recommendations and the implementation of the MOU, Staff has determined that minimal adverse environmental impacts to cultural resources would be achieved.

The proposed facility would have an overall positive impact on the state and local economy due to the increase in construction spending, wages, purchasing of goods and services, annual lease payments to the local landowners, increased tax revenues and potential PILOT revenue.

The geology of the project site in Greene County does not present conditions that would limit or negatively impact the construction and future operation of the proposed facility. In the event the Board grants a certificate to the Applicant, Staff recommends that the final detailed engineering drawings of the final project design shall account for geological features.

No impacts are proposed to wetlands and significant impacts to streams are not anticipated. Impacts to any state or federal listed species can be avoided by following seasonal restrictions for construction in certain habitat types, as detailed by the USFWS and the ODNR. The Applicant did not identify any listed plant or animal species during field surveys. While the project is within the range of several endangered species, impacts would be avoided to suitable habitats. The project would not cross a 100-year floodplain.

Noise impacts are expected to be limited to construction activities. The adverse impact of construction noise would be temporary and intermittent and would occur away from most residential structures. In the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant limit the hours of construction to address potential construction and operational

related concerns from any nearby residents. No non-participating receptors were modeled to receive noise impacts greater than the daytime ambient noise level plus five dBA during facility operation. In the event the Board grants a certificate to the Applicant, and the Applicant chooses an inverter or transformer model with a higher sound output, Staff recommends that the Applicant submit an updated noise study. This would confirm that sound levels would not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor, assuring that operational noise impacts are minimal. Further, the Applicant has developed a complaint resolution plan which would be implemented throughout construction and operation.

During the construction period, local, state, and county roads would experience a temporary increase in truck traffic due to deliveries of equipment and materials. Due to the location of the project, the Applicant anticipates that most components for the entire project would be delivered by using flatbed or tractor-trailer vehicles and multi-axle dump trucks. The transportation management plan would be finalized once the engineering layout is determined. A final delivery route plan would be developed through discussions with local officials.

Due to the low profile of the project, combined with existing vegetation in the area, the visual impacts would be most prominent to landowners in the immediate vicinity of the infrastructure itself. In the event the Board grants a certificate to the Applicant, in order to reduce impacts in areas where an adjacent, non-participating parcel contains a residence with a direct line of sight to the project, Staff has recommended a condition requiring a final landscape and lighting plan that addresses the potential impacts of the facility. In the event the Board grants a certificate to the Applicant, Staff also recommends that the Applicant adjust its landscape and lighting plan to address potential impacts to the traveling public, nearby communities, and recreationalists. In addition, in the event the Board grants a certificate to the Applicant, Staff recommends a perimeter fencing condition to further minimize overall aesthetic concerns and to provide more wildlife friendly access for small animals.

The Applicant has committed to take steps to address such potential impacts to farmland, including repairing all drainage tiles damaged during construction and restoring temporarily impacted land to its original use. The Applicant has consulted landowners and county records to determine the locations of drain tile mains. To avoid impacts to drain tiles, the Applicant stated that it would locate drain tiles as accurately as possible prior to construction. The Applicant has committed to promptly repair any drain tile found to be damaged by the project during the operational life of the project. Following decommissioning of the facility, land can be restored for agricultural use.

The Applicant has prepared a decommissioning plan to decommission the solar facility. The Applicant would provide for financial security to ensure that funds are available for decommissioning and land-restoration. The Applicant would restore the land significantly to its original topography to allow for resumption of agricultural use. In the event the Board grants a certificate to the Applicant, Staff has recommended a condition requiring that the draft decommissioning plan be updated to include improved financial assurance and a decommissioning cost estimate, among other things.

In the event the Board grants a certificate to the Applicant, Staff has recommended a condition that the Applicant use panels that have been certified to comply with the US EPA's TCLP test and meet U.S. EPA definition of non-hazardous waste.

Conclusion

Staff concludes that the proposed project would result in both temporary and permanent impacts to the project and surrounding areas. The project is unlikely to pose a significant adverse impact to existing land use, cultural resources, recreational resources, or wildlife. In the event the Board grants a certificate to the Applicant, with Staff's recommended conditions to further mitigate potential impacts, Staff concludes that the project represents the minimum adverse environmental impact.

Recommended Findings

Staff recommends that the Board find that the proposed facility represents the minimum adverse environmental impact, and therefore complies with the requirements specified in R.C. 4906.10(A)(3), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled <u>Recommended</u> <u>Conditions of Certificate</u>.

CONSIDERATIONS FOR R.C. 4906.10(A)(4)

ELECTRIC GRID

Pursuant to R.C. 4906.10(A)(4), the Board must determine that the proposed electric facilities are consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems, and that the facilities will serve the interests of electric system economy and reliability. The purpose of this section of the report is to evaluate the impact of integrating the proposed facility into the existing regional transmission grid and the bulk power system (BPS).

The Applicant proposed to construct a solar-powered electric generation facility, capable of producing 175 MW of clean and renewable energy for the existing electric grid. The proposed facility would interconnect from the collection substation to the American Transmission Systems Incorporated (ATSI) Clark-Greene 138 kilovolt (kV) transmission line. The interconnection will require the constructing of a new substation and a new 138 kV three breaker ring bus and looping of the Clark-Greene 138 kV line into the new substation.

NERC Planning Criteria

The North American Electric Reliability Corporation (NERC) is responsible for the development and enforcement of the federal government's approved reliability standards, which are applicable to all owners, operators, and users of the BPS. As an owner, operator, and/or user of the BPS, the Applicant is subject to compliance with various NERC reliability standards. The NERC reliability standards are included as part of the system evaluations conducted by PJM Interconnection, LLC (PJM).⁵⁸

PJM Interconnection

The Applicant submitted one generation interconnection request for the proposed facility to PJM. For the request of September 29, 2017, PJM has assigned the queue ID: AD1-140 under the name "Greene-Clark 138 kV". PJM has completed and issued the Feasibility Study Report for AD1-140 in April 2018,⁵⁹ and the System Impact Study Report (SIS) in December 2018.⁶⁰ The table below shows the queue position assigned to the Applicant by PJM.

PJM QUEUES: KINGWOOD SOLAR PROJECT			
Queue ID	Queue Date	Power Output (MW)	Capacity (MW)
AD1-140	9/29/2017	175	95.8
	Totals	175	95.8

^{58.} PJM Interconnection, LLC is the regional transmission organization charged with planning for upgrades and administrating the generation queue for the regional transmission system in Ohio. Generators wanting to interconnect to the bulk electric transmission system located in the PJM control area are required to submit an interconnection application for review of system impacts. The interconnection process provides for the construction of expansions and upgrades of the PJM transmission system, as needed to maintain compliance with reliability standards with the addition of generation in its footprint.

^{59.} PJM Interconnection, "New Services Queue", Feasibility Study Report for Queue ID: AD1-140, htpps://www.pjm.com/planning/services-requests/interconnection-queues.aspx (Accessed April 19, 2021)

^{60.} PJM Interconnection, "New Services Queue", System Impact Study Report for Queue ID: AD1-140, https://www.pjm.com/planning/services-requests/interconnection-queues.aspx (Accessed April 19, 2021)

PJM studied the interconnection as an injection into the BPS via a tap into the Greene-Clark 138kV transmission line in the ATSI area. The Applicant requested a total injection of 175 MW, of which 95.8 MW could be available in the PJM capacity market. The capacity market ensures that there is an adequate availability of generation resources that can meet current and future demand.

PJM Network Impacts

PJM analyzed the proposed facility interconnected to the BPS. The 2021 summer peak power flow model was used by PJM to evaluate regional reliability impacts for AD1-140 as a 200 MW, 102 MW Capacity, injection into the ATSI Greene-Clark 138-kV Line. The project was also evaluated for compliance using a Feasibility Study with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils and Transmission Owners), and it was studied with a commercial probability of 100 percent. The study revealed no overload conditions resulting from the project.

PJM also used the 2021 winter peak power flow model to evaluate regional reliability impacts for AD1-140 as a 175 MW, 95.8 MW Capacity, injection into the ATSI Greene-Clark 138-kV Line. The project was evaluated for compliance using a Feasibility Study with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils and Transmission Owners), and it was studied with a commercial probability of 100 percent. The study revealed no overload conditions resulting from the project. The chart below displays the results of the PJM SIS for the regional footprint.⁶¹

PJM REGIONAL SYSTEM IMPACTS (2021 Summer Peak)		
Generation Deliverability – System Normal & Single Contingency Outage		
Plant Output: Capacity Level – 102 MW	No Problems Identified	
Category C and D – Multiple Contingency Outages		
Plant Output: Power Level – 200 MW	No Problems Identified	

PJM REGIONAL SYSTEM IMPACTS (2021 Winter Peak)

Generation Deliverability – System Normal & Single Contingency Outage

Plant Output: Capacity Level – 95.8 MW	No Problems Identified		
Category C and D – Multiple Contingency Outages			
Plant Output: Power Level – 175 MW	No Problems Identified.		

^{61.} PJM Interconnection, "New Services Queue", System Impact Study Report for queue ID: AD1-140, https://www.pjm.com/planning/services-requests/interconnection-queues.aspx (Accessed April 19, 2021)

New System Reinforcements

PJM requires mitigation of contingencies that cause reliability violations which are initially caused by the addition of the Applicant's project. No System Reinforcements were reported to be needed by the System Impact Study Report of December 2018.

Contribution to Previously Identified Overloads – Network Impacts

PJM studied the project for possible overloading where the proposed facility may affect earlier generation or transmission projects in the PJM queue. None were identified in the System Impact Study of December 2018.

Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Problems identified here would likely result in operational restrictions for the project. Network upgrades under this section would allow for the delivery of energy with operational restrictions. No problems were identified.

Short Circuit Analysis

The short circuit analysis, which is part of the SIS, evaluates the interrupting capabilities of circuit breakers that would be impacted by the proposed generation addition. No problems were identified and no breakers were found to be overdutied for the 2021 Summer Peak Analysis.

Recommended Findings

Staff recommends that the Board find that the proposed facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems, and that the facility would serve the interests of electric system economy and reliability. Therefore, Staff recommends that the Board find that the facility complies with the requirements specified in R.C. 4906.10(A)(4), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled <u>Recommended Conditions of Certificate</u>.

Considerations for R.C. 4906.10(A)(5)

AIR, WATER, SOLID WASTE AND AVIATION

Pursuant to R.C. 4906.10(A)(5), the facility must comply with Ohio law regarding air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes, and air navigation.

Air⁶²

Air quality permits are not required for construction or operation of the proposed facility. However, fugitive dust rules adopted under R.C. Chapter 3704 may be applicable to the construction of the proposed facility. The Applicant would control temporary and localized fugitive dust by using BMPs such as using water to wet soil to minimize dust during periods of high heat as outlined in the ODNR's *Ohio Rainwater and Land Development Manual*. This method of dust control is typically used to comply with fugitive dust rules.

This project would not include any stationary sources of air emissions and, therefore, would not require air pollution control equipment.

Water⁶³

The Applicant anticipates obtaining environmental permits, as necessary. Collection lines would require stream crossings, however, these impacts would be minimized utilizing HDD where possible. Staff anticipated that any unavoidable stream impacts would be covered under USACE Nationwide permitting and would be sufficiently minimal that preconstruction authorization from the USACE would not be required. The Applicant would mitigate potential water quality impacts associated with aquatic discharges by obtaining NPDES construction storm water general permits from the Ohio EPA with submittal of a notice of intent and development and implementation of a SWPPP. The SWPPP would describe and outline BMPs to control soil erosion, minimize sedimentation, and outline placement of silt fence and compost filter sock where appropriate to minimize runoff.

^{62.} The Revised Code provides for the Ohio EPA to administer and enforce the provisions of R.C. Ch. 3704 with regards to air pollution control. See e.g., RC 3704.03, 3704.161. The Ohio EPA Division of Air Pollution Control ensures compliance with the federal Clean Air Act and the Emergency Planning and Community Right-to-Know Act as part of its mission to attain and maintain air quality at a level that protects the environment and public health. (Ohio EPA, *Division of Air Pollution Control*, https://www.epa.ohio.gov/dapc/#188913097-featured-topics>). The Division of Air Pollution Control develops and enforces rules in the Ohio Administrative Code, which assist the state of Ohio to: attain and maintain the National Ambient Air Quality Standards (NAAQS) contained in the Clean Air Act; fulfill the requirements set forth by the Ohio General Assembly in R.C. 3704; and protect and maintain healthy air quality for the citizens of the state of Ohio. (*See*, Ohio EPA, *Division of Air Pollution Control Rules and Laws*, <https://www.epa.ohio.gov/dapc/DAPCrules).

^{63.} The Revised Code provides for the Ohio EPA to be the lead agency in administering the provisions of Ch. 6111 with regards to water quality. See e.g., RC 6111.041. For example, the Ohio EPA, among other things, "ensures compliance with the federal Clean Water Act and works to restore and enhance the integrity of Ohio's waters." (Ohio EPA Website, *Division of Surface Water*, https://www.epa.ohio.gov/dsw/Surface-Water/LiveTabId/113292#:~:text=Ensures%20compliance%20with%20the%20federal,the%20integrity%20of%20O hio's%20waters.&text=We%20issue%20permits%20to%20regulate,aimed%20at%20improving%20polluted%20stre ams). The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. (US EPA, *Summary of Clean Water Act*, https://www.epa.gov/laws-regulations/summary-clean-water-act.

The Applicant would develop an SPCC plan to manage the storage and mitigate the unlikely release of hazardous substances. Specifically, the Applicant indicates that its engineering procurement contractor would implement and follow all measures indicated in the SPCC plan and monitor for aquatic discharges draining from the site, such as an oily sheen on storm water, etc. to ensure that the water resources are not at-risk during construction.

With these measures, construction and operation of this facility would comply with requirements of R.C. Chapter 6111, and the rules and laws adopted under that chapter.

Solid Waste⁶⁴

During the construction period, the amount of solid waste generated is estimated to be approximately 6,825 cubic yards. Materials such as cardboard and metal packaging would be recycled at an appropriate facility.

Operation would not result in significant generation of debris or solid waste. Waste generated from operation could include wood, cardboard, metal packing/packaging materials, used oil, general refuse, universal waste, and used antifreeze. No hazardous waste would be generated as part of project operations.

In the event the Board grants a certificate to the Applicant, at the time solar panel end of life disposal, regardless of whether a panel marked for decommissioning is to be considered hazardous or non-hazardous, Staff recommends that retired panels marked for disposal be sent to an engineered landfill with various barriers and methods designed to prevent leaching of materials into soils and groundwater.

The Applicant's solid waste disposal plans would comply with solid waste disposal requirements set forth in R.C. Chapter 3734.

Aviation⁶⁵

The height of the tallest above ground structures would be the substation lightning mast at the collector substation at approximately 70 feet tall.⁶⁶ Those heights are under the height requirement from the Federal Aviation Administration (FAA), pursuant to 14 CFR Part 77.9(a), for filing a Form 7460-1. However, the FAA performed an aeronautical study for various points around the solar facility. The FAA provided the results of that aeronautical study to the Applicant as a determination of no hazard to air navigation for those various points of the solar facility (Aeronautical Study Nos. 2021-AGL-35-OE through 2021-AGL-38-OE).⁶⁷

^{64.} The Revised Code generally provides for Ohio EPA to administer and enforce the provisions of Chapters 3714. and 3734., in particular with regard to solid waste facilities, infectious waste treatment facilities and construction and demolition debris facilities.

^{65.} The FAA is the authority in the U.S. government responsible for regulating all aspects of civil aviation, including issuing determinations on petitions for objects that penetrate the nation's airspace. The FAA conducts aeronautical studies for new structures that will exceed 200 feet in height under the provisions of 49 U.S.C. 44718, and applicable 14 CFR Part 77. Pursuant to R.C. 4561.32, ODOT regulates the height and location of structures and objects within any airport's clear zone surface, horizontal surface, conical surface, primary surface, approach surface, or transitional surface.

^{66.} Application at page 74.

^{67.} Kingwood Solar I, LLC June 1, 2021 Responses to Staff's May 17 and May 20 Data Requests, Data Request #21.

The Applicant has found that the public use Springfield-Beckley Municipal (SGH) airport is closest to the proposed solar facility, and that it is approximately 2.8 miles northwest of the project area. The Applicant found that the nearest private use airstrip, Hammond (OI91) airport is approximately 1.5 miles northwest of the project area. An aircraft would need to obtain permission prior to landing at this private-use facility. Additionally, the Applicant indicates that there is a former airstrip that is no longer in use, Crawley field, approximately 0.1 mile north of the project. The Applicant indicated that it had provided notice of the solar facility to all of these airports within five miles of the project area.

In accordance with R.C. 4906.10(A)(5), Staff contacted the ODOT Office of Aviation during the review of this application in order to coordinate review of potential impacts of the facility on local airports.⁶⁸ As of the date of this filing, no such concerns have been identified.

Recommended Findings

Staff recommends that the Board find that the proposed facility complies with the requirements specified in R.C. 4906.10(A)(5), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled <u>Recommended Conditions of Certificate</u>.

^{68.} R.C. 4906.10(A)(5) states: "[i]n determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code." R.C. 4561.341 states: "[p]ursuant to any consultation with the power siting board regarding an application for certification under section 4906.03 or 4906.10 of the Revised Code, the office of aviation of the division of multi-modal planning and programs of the department of transportation shall review the application to determine whether the facility constitutes or will constitute an obstruction to air navigation based upon the rules adopted under section 4561.32 of the Revised Code. Upon review of the application, if the office determines that the facility constitutes or will constitute an obstruction, it shall provide, in writing, this determination and either the terms, conditions, and modifications that are necessary for the applicant to eliminate the obstruction or a statement that compliance with the obstruction standards may be waived, to the power siting board under section 4906.03 or 4906.10 of the Revised Code, as appropriate."

Considerations for R.C. 4906.10(A)(6)

PUBLIC INTEREST, CONVENIENCE, AND NECESSITY

Pursuant to R.C. 4906.10(A)(6), the Board must determine that the facility will serve the public interest, convenience, and necessity.

Safety

The Applicant stated that it would use reliable and certified equipment compliant with applicable Underwriters Laboratories, Institute of Electrical and Electronics Engineers, National Electrical Code, National Electrical Safety Code (NESC), and American National Standards Institute standards.

The Applicant intends to use warning signs, fencing, and gates to restrict access to the potential hazards within the solar project area. Additionally, the Applicant intends to design its facility with setbacks to non-participating property line(s) and public roads. Specifically, the Applicant would implement the following setbacks: 25 feet from the solar facility fence line to a property line of any non-participating parcel plus an additional 20 feet from the solar panels to the fence line, 25 feet from facility fence line to the public road right-of-way plus an additional 20 feet from the solar panels to the fence line.

Staff has consulted with ODOT personnel who indicated that in roadway design a roadway requires a clear zone width beyond the edge line. Ideally, there should be no obstructions within that road's clear zone. Frangible objects that breakaway when or if an errant vehicle crashes into them, and that would not cause significant damage, can be placed in the clear zone. A clear zone is a safety precaution area for vehicles to lessen the severity of crashes. In the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant implement a setback of at least 30 feet from the solar facility fence line to the public roads edge line or demonstrate that its solar fence is outside the clear zone of the nearest public road.

The Applicant stated that it intends to restrict public access to the facility by enclosing the project area with fencing that complies with NESC requirements. The Applicant has proposed fencing that would be a seven feet tall woven-wire agricultural fence with wooden posts that is aesthetically fitting for a rural area, also known as a deer fence.⁶⁹ After the PJM studies are complete, the Applicant intends for its final design that the utility switchyard would have a six feet tall chain link fence topped with an additional one foot of barbed wire strand. In the event the Board grants a certificate to the Applicant, Staff finds this approach to fencing around the solar panel arrays and substation is becoming common for Ohio solar facilities and has recommended that, except for the substation fencing, the solar panel perimeter fence type be both wildlife permeable and aesthetically fitting for a rural location.

Prior to construction, the Applicant also intends to develop and implement a project specific emergency response plan and health and safety plan for its employees and contractors. The emergency response plan would be developed in consultation and coordination with potentially affected local and regional emergency response personnel. The Applicant would also include

^{69.} Application at page 14 and Kingwood Solar I, LLC July 28, 2021 Responses to Staff's July 13, 2021 Data Requests, Data Request #1.

training for local responders to support a prompt response to emergencies at the solar facility.⁷⁰ The Applicant has indicated that the emergency response plan will at a minimum describe the appropriate response level, principles to be applied during a response, and detailed steps for initial response and containment.⁷¹

Electromagnetic Fields

Electric transmission lines, when energized, generate electromagnetic fields (EMF). Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on human health. There have been concerns, however, that EMF may have impacts on human health. The gen-tie transmission line is not within 100 feet of an occupied residence, therefore calculation of the production of EMF during operation of the proposed gen-tie transmission line is not warranted per Ohio Adm.Code 4906-5-07(A)(2).⁷² The Applicant states that the transmission facilities would be designed and installed according to the requirements of the NESC.

Public Interaction and Participation

The Applicant hosted a virtual and an in-person public informational meeting for the project. Attendees were provided the opportunity to review information about the project, ask questions, and provide comments.⁷³ According to the Applicant, attendees shared comments and questions on topics including anticipated financial benefits of the project, potential project visibility from nearby locations, potential impact to property values, stormwater quality, and potential effects to wildlife.⁷⁴ The Applicant commissioned a property value impact study, which concluded that property values are not expected to be adversely impacted by the project.⁷⁵

The Applicant has drafted a complaint resolution program to handle complaints during the construction and operation of the facility.⁷⁶ The Applicant has committed to update the complaint resolution program for the operation of the project. In the event the Board grants a certificate to the Applicant, Staff recommends that a final version of the complaint resolution program for construction and operation be filed on the docket no later than 30 days prior to the start of construction. The Applicant has committed to notify, by mail, affected property owners and tenants who were provided notice of the public informational meeting; attendees of the public informational meeting who requested updates regarding the project; and any other person who requests updates regarding the project, at least seven days prior to the start of construction. In the event the Board grants a certificate to the Applicant, Staff recommends that this notice also be mailed to all residents, airports, schools, and libraries located within one mile of the project area; parties to this case; and county commissioners, township trustees, and emergency responders. In the event the Board grants a certificate to the Applicant, Staff further recommends that a similar notice be mailed to the same recipients at least seven days prior to the start of facility operation. The Applicant has committed to provide the OPSB with a quarterly complaint summary report.⁷⁷

^{70.} Application at page 52.

^{71.} Application at page 51.

^{72.} Kingwood Solar I, LLC June 1, 2021 Responses to Staff's May 17 and May 20 Data Requests, Data Request #28.

^{73.} Application at Appendix B.

^{74.} Application at page 22.

^{75.} Application at Exhibit F.

^{76.} Application at Exhibit E.

^{77.} ibid.

In the event the Board grants a certificate to the Applicant, Staff recommends that these reports be filed on the public docket.

The Administrative Law Judge scheduled a public hearing and an adjudicatory hearing for this proceeding. The public hearing will be held on November 15, 2021, at 6:00 p.m., in the Assembly Hall of the Greene County Expo Center, 120 Fairground Road, Xenia, Ohio 45385. The adjudicatory hearing is scheduled for December 13, 2021, at 10:00 a.m.

The Board of Trustees of Cedarville Township, the Board of Trustees of Xenia Township, the Board of Trustees of Miami Township, In Progress LLC, the Tecumseh Land Preservation Association, Citizens for Greene Acres, Inc., the Greene County Board of Commissioners, and the Ohio Farm Bureau Federation, have filed to intervene in this proceeding.

In considering whether a facility is in the public interest, convenience, and necessity, among other things, Staff reviews public input describing perspectives regarding this criterion. Staff notes that the notice of intervention for both the Board of Township Trustees of Miami Township and the Board of Trustees of Cedarville Township states their intervention: "[b]ecause the proposed project is likely to have some adverse effect on roads, properties and citizens located and/or residing in [township]." Additionally, on October 29, 2021, the Greene County Board of Commissioners filed a unanimous resolution on the public docket stating its opposition to the project.

Public Comments

In addition to the filings made by parties to the case as described above, as of October 29, 2021, the OPSB has received 35 documents in the public comments of the case record. The public comments include the following:

- An email from the Village of Clifton expressing the village's opposition to the project.
- A letter from Citizens for Greene Acres, Inc. sharing concerns regarding the Applicant's public informational meeting and application completeness.
- A notice from the Greene Soil & Water Conservation District, Greene County expressing the district's intention to informally participate in the case.

Commenters opposed to the project have expressed concerns with subjects including decommissioning, impacts to agricultural land use, impacts to wildlife and the environment, impacts to drinking water and groundwater, impacts to property value, public health, aesthetics and viewshed, fencing and vegetative screening, noise, glare, road impacts, being surrounded by the project on multiple sides, and setbacks. Those supportive of the project, have emphasized benefits to the local economy, clean energy and the environment, tax revenue, and job creation.

All public comments are available for Board members and the public to view online in the case record at http://dis.puc.state.oh.us. Many of these subjects are addressed through Staff's investigation, as detailed in sections of this report. However, several subjects are described in more detail below.

(1) **Opposition to agricultural land used for solar and concern over farmland quantity.**

In the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant decommission the facility at the end of its useful life. This decommissioning requires returning the land to agriculture or the landowners desired use.

(2) Impact to property value.

The Applicant has performed a property value impact study included as Exhibit F of the application. The Applicant indicated that the proposed project is not expected to negatively impact the value of adjoining or abutting property.

(3) Viewshed impact opposition.

While the aesthetics of the project are somewhat subjective, it is understandable that many community residents have visual impact concerns. Because of this, the Applicant has prepared a visual resource assessment and mitigation plan as Exhibit Q of the application to lessen the visual impact of the project. In addition, the Applicant has committed to utilizing a fence that would better reflect the rural setting of the project area. Lastly, in the event the Board grants a certificate to the Applicant, Staff recommends implementation of a landscape and lighting plan.

(4) Health Risks and Environmental Impact Opposition.

The Applicant indicates that the solar facility would not generate hazardous waste. In the event the Board grants a certificate to the Applicant, Staff also recommends that the Applicant relocate proposed solar equipment to avoid private water wells located within the project area. That solar equipment would meet or exceed minimum isolation distances promulgated by ODH and outlined in Ohio Adm.Code 3701-28-7. In the event the Board grants a certificate to the Applicant, Staff recommends that the Applicant demonstrate that the proposed solar panels do not exhibit the characteristic of toxicity through analysis with the US EPA's TCLP testing protocol.

Pursuant to R.C. 4906.10(A)(5), the proposed facility must comply with Ohio law regarding air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes regulations. Staff analysis and evaluation of those pertinent parts of the project are summarized in section 4906.10(A)(5) of this Staff Report.

Conclusion

With respect to R.C. 4906.10(A)(6), Staff finds that the project will not serve the public interest, convenience, and necessity. Public interest, convenience, and necessity should be examined through a broad lens. At the same time, this statutory criterion regarding public interest,

convenience, and necessity, must also encompass the local public interest, ensuring a process that allows for local citizen input, taking into account local government perspective.⁷⁸

As explained in more detail above, Staff notes that there is general opposition to the project from the local citizens and local governmental bodies. Several local governmental bodies have filed to intervene in this proceeding, including the Board of Trustees of Cedarville Township, the Board of Trustees of Xenia Township, the Board of Trustees of Miami Township, and the Greene County Board of Commissioners. As noted above, two of these local governmental bodies intervened based on anticipated adverse effects of the project on their respective localities. Additionally, on October 29, 2021, the Greene County Board of Commissioners filed a resolution, stating its opposition to the project, specifically that the application "is incompatible with the general health, safety, and welfare of the residents of Greene County."

Staff notes that these governmental bodies are local elected officials charged with representing and serving their respective communities. Many of these entities have responsibility for preserving the health, safety, and welfare within their respective communities. Therefore, their interest in and, in this case strong opposition to, the project is especially compelling.

While some local opposition is common in many siting projects, considering the above opposition filed in the docket and expressed at the local public hearings, Staff recognizes that in this proceeding it has been especially prominent, one-sided, and compelling. Staff believes that the public opposition will create negative impacts on the local community. Board Staff believes that any benefits to the local community are outweighed by this overwhelming public opposition and, therefore, the Project would not serve the public interest, convenience, and necessity.

Recommended Findings

Staff recommends that the Board find that the proposed facility would not serve the public interest, convenience, and necessity, and therefore does not comply with the requirements specified in R.C. 4906.10(A)(6).

Should the Board determine the Applicant has met the requirements specified in R.C. 4906.10(A)(6) subject to modification, Staff recommends that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled <u>Recommended Conditions of Certificate</u>.

^{78.} See In the Matter of the Application of Republic Wind, LLC for a Certificate to Site Wind-Powered Electric Generation Facilities in Seneca and Sandusky Counties, Ohio, Case No. 17-2295-EL-BGN, Opinion and Order at 2, 28 (June 24, 2021).

Considerations for R.C. 4906.10(A)(7)

AGRICULTURAL DISTRICTS AND AGRICULTURAL LAND

Pursuant to R.C. 4906.10(A)(7), the Board must determine the facility's impact on the agricultural viability of any land in an existing agricultural district within the project area of the proposed facility. The agricultural district program was established under R.C. Chapter 929. Agricultural district land is exempt from sewer, water, or electrical service tax assessments.

Agricultural land can be classified as an agricultural district through an application and approval process that is administered through local county auditors' offices. Eligible land must be devoted exclusively to agricultural production or be qualified for compensation under a land conservation program for the preceding three calendar years. Furthermore, eligible land must be at least 10 acres in size or produce a minimum average gross annual income of \$2,500.

Approximately 1,027 acres of agricultural land would be taken out of service by the proposed project, including approximately 205 acres of agricultural district land. However, the repurposed land could be restored for agricultural use when the project is decommissioned.

The construction and operation of the proposed facility would disturb the existing soil and could lead to broken drainage tiles. A drain tile system consists of laterals, which are branches off a main, and main lines. Main lines can allow water to flow into or out of one parcel to another. The locating and avoiding of damaging drain tile mains can help prevent the pooling of water on project parcels and adjacent parcels.

When landowners lay down or repair drain tiles, they often keep records of the location of the drain tiles. The Applicant has consulted landowners and county officials to collect data on existing drain tiles within the project area. The Applicant has committed to promptly repair any drain tile found to be damaged by the project during the operational life of the project.

The Applicant has committed to take steps to address potential impacts to farmland, including repairing all drainage tiles damaged during construction and restoring temporarily impacted land to its original use. Excavated topsoil would be separated during construction and returned as topsoil after construction. Restored topsoil would be de-compacted and seeded after construction.

Recommended Findings

Staff recommends that the Board find that the impact of the proposed facility on the viability of existing agricultural land in an agricultural district has been determined, and therefore complies with the requirements specified in R.C. 4906.10(A)(7), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled <u>Recommended Conditions of Certificate</u>.

Considerations for R.C. 4906.10(A)(8)

WATER CONSERVATION PRACTICE

Pursuant to R.C. 4906.10(A)(8), the proposed facility must incorporate maximum feasible water conservation practices, considering available technology and the nature and economics of the various alternatives.

Construction of the proposed facility would not require the use of significant amounts of water. Water may be utilized for dust suppression and control on open soil surfaces such as unpaved construction access roads as needed.

Operation of the proposed facility would not require the use of significant amounts of water. No sanitary water discharge would occur. The Applicant has stated that no appreciable amounts of water would be utilized in project operations and currently has not proposed an O&M building. Water may be trucked in to use for cleaning the panels dependent on weather conditions and dust control if necessary, about once or twice per year. The Applicant estimates that approximately 282,875 gallons may be used annually to clean the panels.⁷⁹

Recommended Findings

The Staff recommends that the Board find that the proposed facility would incorporate maximum feasible water conservation practices, and therefore complies with the requirements specified in R.C. 4906.10(A)(8), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled <u>Recommended Conditions of Certificate</u>.

^{79.} Kingwood Solar I, LLC June 1, 2021 Responses to Staff's May 17 and May 20 Data Requests, Data Request #37.

V. RECOMMENDED CONDITIONS OF CERTIFICATE

Following a review of the application filed by the Applicant and the record compiled to date in this proceeding, Staff recommends that a certificate not be issued for the proposed facility.

However, should the Board choose to issue a certificate for the proposed facility, Staff recommends that a number of conditions become part of such certificate. These recommended conditions may be modified as a result of public or other input received subsequent to the issuance of this report. At this time, Staff recommends the following conditions:

- (1) The Applicant shall install the facility, utilize equipment and construction practices, and implement mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in this *Staff Report of Investigation*.
- (2) The Applicant shall conduct a preconstruction conference prior to the commencement of any construction activities. Staff, the Applicant, and representatives of the primary contractor and all subcontractors for the project shall attend the preconstruction conference. The conference shall include a presentation of the measures to be taken by the Applicant and contractors to ensure compliance with all conditions of the certificate, and discussion of the procedures for on-site investigations by Staff during construction. Prior to the conference, the Applicant shall provide a proposed conference agenda for Staff review and shall file a copy of the agenda on the case docket. The Applicant may conduct separate preconstruction conferences for each stage of construction.
- (3) Within 60 days after the commencement of commercial operation, the Applicant shall submit to Staff a copy of the as-built specifications for the entire facility. If the Applicant demonstrates that good cause prevents it from submitting a copy of the as-built specifications for the entire facility within 60 days after commencement of commercial operation, it may request an extension of time for the filing of such as-built specifications. The Applicant shall use reasonable efforts to provide as-built drawings in both hard copy and as geographically referenced electronic data.
- (4) Separate preconstruction conferences may be held for the different phases of civil construction and equipment installation. At least 30 days prior to each preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design for that phase of construction and mapping in the form of PDF, which the Applicant shall also file on the docket of this case, and geographically referenced data (such as shapefiles or KMZ files) based on final engineering drawings to confirm that the final design is in conformance with the certificate. Mapping shall include the limits of disturbance, permanent and temporary infrastructure locations, areas of vegetation removal and vegetative restoration as applicable, and specifically denote any adjustments made from the siting detailed in the application. The detailed engineering drawings of the final project design for each phase of construction shall account for geological features and include the identity of the registered professional engineer(s), structural engineer(s), or engineering firm(s), licensed to practice engineering in the state of Ohio who reviewed and approved the designs. All applicable geotechnical study results shall be included in the submission of the final project design to Staff.

- (5) At least 30 days prior to the preconstruction conference, the Applicant shall provide Staff, for review and acceptance, the final geotechnical engineering report. This shall include a summary statement addressing the geologic and soil suitability.
- (6) At least 30 days prior to the preconstruction conference, the Applicant shall provide Staff, for review and acceptance, an Unanticipated Discovery Plan. This shall include detailed plans for remediation of any oil and gas wells within the project area
- (7) If any changes are made to the facility layout after the submission of final engineering drawings, the Applicant shall provide all such changes to Staff in hard copy and as geographically-referenced electronic data. All changes are subject to Staff review for compliance with all conditions of the certificate, prior to construction in those areas.
- (8) Should karst features be identified during additional geotechnical exploration or during construction, the Applicant shall avoid construction in these areas when possible. If mitigation measures are used in lieu of avoidance, the Applicant's consideration of adequate mitigation measures shall include potential hydrogeological impact.
- (9) The certificate shall become invalid if the Applicant has not commenced a continuous course of construction of the proposed facility within five years of the date of journalization of the certificate unless the Board grants a waiver or extension of time.
- (10) As the information becomes known, the Applicant shall file on the public docket the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.
- (11) Prior to the commencement of construction activities in areas that require permits or authorizations by federal or state laws and regulations, the Applicant shall obtain and comply with such permits or authorizations. The Applicant shall provide copies of permits and authorizations, including all supporting documentation, to Staff within seven days of issuance or receipt by the Applicant and shall file such permits or authorizations on the public docket. The Applicant shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference(s).
- (12) The certificate authority provided in this case shall not exempt the facility from any other applicable and lawful local, state, or federal rules or regulations nor be used to affect the exercise of discretion of any other local, state, or federal permitting or licensing authority with regard to areas subject to their supervision or control.
- (13) The facility shall be operated in such a way as to assure that no more than 175 MW would be injected into the Bulk Power System at any time.
- (14) The Applicant shall not commence any construction of the facility until it has executed an Interconnection Service Agreement and Interconnection Construction Service Agreement with PJM Interconnection, which includes construction, operation, and maintenance of system upgrades necessary to integrate the proposed generating facility into the regional transmission system reliably and safely. The Applicant shall docket in the case record a

letter stating that the Agreement has been signed or a copy of the executed Interconnection Service Agreement and Interconnection Construction Service Agreement.

- (15) Prior to commencement of construction, the Applicant shall submit to Staff for approval a solar panel perimeter fence type that is both small-wildlife permeable and aesthetically fitting for a rural location. This condition shall not apply to substation fencing.
- (16) Prior to commencement of any construction, the Applicant shall prepare a landscape and lighting plan in consultation with a landscape architect licensed by the Ohio Landscape Architects Board that addresses the aesthetic and lighting impacts of the facility with an emphasis on any locations where an adjacent non-participating parcel contains a residence with a direct line of sight to the project area at any time of the year. The plan shall also address potential aesthetic impacts to nearby communities, the travelling public, and recreationalists by incorporating appropriate landscaping measures such as shrub plantings or enhanced pollinator plantings. The plan shall include measures such as fencing, vegetative screening, or good neighbor agreements. Unless alternative mitigation is agreed upon with the owner of any such adjacent, non-participating parcel containing a residence with a direct line of sight to the fence of the facility, the plan shall provide for the planting of vegetative screening designed by the landscape architect to enhance the view from the residence and be in harmony with the existing vegetation and viewshed in the area. The Applicant shall maintain vegetative screening for the life of the facility and the Applicant shall replace any failed plantings so that, after five years, at least 90 percent of the vegetation has survived. The Applicant shall maintain all fencing along the perimeter of the project in good repair for the term of the project and shall promptly repair any damage as needed. Lights shall be motion-activated and designed to narrowly focus light inward toward the facility, such as being downward-facing and/or fitted with side shields. The Applicant shall provide the plan to Staff and file it on the public docket for review and confirmation that it complies with this condition.
- (17) The Applicant shall contact Staff, the ODNR, and the USFWS within 24 hours if state or federal listed species are encountered during construction activities. Construction activities that could adversely impact the identified plants or animals shall be immediately halted until an appropriate course of action has been agreed upon by the Applicant, Staff and the appropriate agencies. The Applicant shall also annually report all wildlife mortality, injury, or entrapment that is discovered at the facility to OPSB Staff and ODNR DOW.
- (18) If the Applicant encounters any new listed plant or animal species or suitable habitat of these species prior to construction, the Applicant shall include the location in the final engineering drawings and associated mapping, as required in condition 4. The Applicant shall avoid impacts to these species and explain how impacts would be avoided during construction.
- (19) The Applicant shall construct the facility in a manner that incorporates post construction stormwater management under OHC00005 (Part III.G.2.e, pp. 19-27) in accordance with the Ohio Environmental Protection Agency's Guidance on Post-Construction Storm Water Controls for Solar Panel Arrays.

- (20) The Applicant shall have a Staff-approved environmental specialist on site during construction activities that may affect sensitive areas. Sensitive areas may include, but are not limited to, wetlands and streams, and locations of threatened or endangered species. The environmental specialist shall be familiar with water quality protection issues and potential threatened or endangered species of plants and animals that may be encountered during project construction. The environmental specialist shall have authority to stop construction to assure that unforeseen environmental impacts do not progress and recommend procedures to resolve the impact. A map shall be provided to Staff showing sensitive areas which would be impacted during construction with information on when the environmental specialist would be present.
- (21) The Applicant shall adhere to seasonal cutting dates of October 1 through March 31 for the removal of trees three inches or greater in diameter to avoid impacts to Indiana bats, northern long-eared bats, little brown bat, and the tricolored bat unless coordination with the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) allows a different course of action. If coordination with these agencies allows clearing between April 1 and September 30, the Applicant shall docket proof of completed coordination on the case docket prior to clearing trees.
- (22) The Applicant shall take steps to prevent establishment and/or further propagation of noxious weeds identified in Ohio Adm.Code Chapter 901:5-37 during implementation of any pollinator-friendly plantings. This would be achieved through appropriate seed selection, and annual vegetative surveys. If noxious weeds are found to be present, the Applicant shall remove and treat them with herbicide as necessary.
- (23) The Applicant shall obtain transportation permits prior to the commencement of construction activities that require them. The Applicant shall coordinate with the appropriate authority regarding any temporary road closures, road use agreements, driveway permits, lane closures, road access restrictions, and traffic control necessary for construction and operation of the proposed facility. Applicant shall detail this coordination as part of a final transportation management plan submitted to Staff prior to the preconstruction conference for review and confirmation by Staff that it complies with this condition.
- (24) At least 30 days prior to the preconstruction conference, the Applicant shall provide the status (i.e., avoidance, mitigation measures, or capping) of each water well within the project area. The Applicant shall indicate to Staff whether the nearest solar components to each uncapped well within the project area meets or exceeds any applicable minimum isolation distances outlined in Ohio Adm.Code 3701-28-7. The Applicant shall relocate the solar equipment at least 50 feet from each active water well. The Applicant may demonstrate that the well is for nonpotable use and relocate solar equipment at least 10 feet from that nonpotable use water well, or seal and abandon the water well.
- (25) At least 30 days prior to the preconstruction conference, that the Applicant shall submit its emergency response plan to Staff for review and acceptance. That plan shall include a provision(s) to keep the Village of Yellow Springs (e.g., city administrator or water

department) and the Camp Clifton Day Camp informed of the status of any spills, significant panel damage, and repair/clean-up/decommission schedule.

- (26) At least 30 days prior to the preconstruction conference, the Applicant shall demonstrate that its solar and substation equipment are outside the inner management protection zone(s) for the Camp Clifton Day Camp source water protection area.
- (27) At least 30 days prior to the preconstruction conference, the Applicant shall demonstrate that its solar panels to be installed at the solar facility, including over the outer management zones of the Village of Yellow Springs and Camp Clifton Day Camp, do not exhibit the characteristic of toxicity through analysis with the US EPA's toxicity characteristics leachate procedure (TCLP) test.
- (28) At least 30 days prior to the start of construction, the Applicant shall file a copy of the final complaint resolution program for construction and operation of the project on the public docket. At least seven days prior to the start of construction and at least seven days prior to the start of facility operations, the Applicant shall notify via mail affected property owners and tenants who were provided notice of the public informational meeting; attendees of the public informational meeting who requested updates regarding the project; any other person who requests updates regarding the project; all residents, airports, schools, and libraries located within one mile of the project area; parties to this case; and county commissioners, township trustees, and emergency responders. These notices shall provide information about the project, including contact information and a copy of the complaint resolution program. The start of construction notice shall include written confirmation that the Applicant has complied with all preconstruction-related conditions of the certificate, as well as a timeline for construction and restoration activities. The start of facility operations notice shall include written confirmation that the Applicant has complied with all construction-related conditions of the certificate, as well as a timeline for the start of operations. The Applicant shall file a copy of these notices on the public docket. During the construction and operation of the facility, the Applicant shall submit to Staff a complaint summary report by the fifteenth day of April, July, October, and January of each year through the first five years of operation. The report shall include a list of all complaints received through the Applicant's complaint resolution program, a description of the actions taken toward the resolution of each complaint, and a status update if the complaint has yet to be resolved. The Applicant shall file a copy of these complaint summaries on the public docket.
- (29) General construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., or until dusk when sunset occurs after 7:00 p.m. Impact pile driving shall be limited to the hours between 9:00 a.m. and 6:00 p.m. Impact pile driving may occur between 7:00 a.m. and 9:00 a.m., and after 6:00 p.m. or until dusk when sunset occurs after 6:00 p.m., if the noise impact at non-participating receptors is not greater than daytime ambient Leq plus 10 dBA. If impact pile driving is required between 7:00 a.m. and 9:00 a.m., and after 6:00 p.m. or until dusk when sunset occurs after 6:00 p.m. or until dusk when sunset occurs after 6:00 p.m., and after 6:00 p.m. or until dusk when sunset occurs after 6:00 p.m. and 9:00 a.m., and after 6:00 p.m. or until dusk when sunset occurs after 6:00 p.m., the Applicant shall install a noise monitor in a representative location to catalog that this threshold is not being exceeded. Hoe ram operations, if required, shall be limited to the hours between 10:00 a.m. and 4:00 p.m., Monday through Friday. Construction activities that do not involve noise increases

above ambient levels at sensitive receptors are permitted outside of daylight hours when necessary. The Applicant shall notify property owners or affected tenants within the meaning of Ohio Adm.Code 4906-3-03(B)(2) of upcoming construction activities including potential for nighttime construction.

- (30) If the inverters or substation transformer chosen for the project have a higher sound power output than the models used in the noise model, the Applicant shall show that sound levels will not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor and will be submitted at least 30 days prior to construction. If noise data is not available from the inverter or transformer manufacturer, an operational noise test may be performed to comply with this condition. The test must be performed on a sunny day between 10 a.m. and 2 p.m. in the months of May-August, at a distance equal to the minimum distance from an inverter to a non-participating residence. If the test shows the operational noise level is greater than project area ambient Leq level plus five dBA additional noise mitigation will be required. This condition is complied with if the test shows the operational noise level is equal or less than project area ambient Leq level plus five dBA. The Applicant shall file a report on the public docket that shows either 1) for the chosen inverter and substation transformer that sound levels will not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor or 2) results of the operational noise test showing that sound levels will not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor.
- (31) The Applicant shall avoid, where possible, or minimize to the extent practicable, any damage to functioning field tile drainage systems and soils resulting from the construction, operation, and/or maintenance of the facility in agricultural areas. Damaged field tile systems shall be promptly repaired or rerouted to at least original conditions or modern equivalent at the Applicant's expense to ensure proper drainage. However, if the affected landowner agrees to not having the damaged field tile system repaired, they may do so only if the field tile systems of adjacent landowners remain unaffected by the non-repair of the landowner's field tile system.
- (32) The Applicant shall ensure that nearby parcels are protected from unwanted drainage problems due to construction and operation of the project. The Applicant shall ensure this by implementing one of the following:
 - a) documenting benchmark conditions of surface and subsurface drainage systems prior to construction, including the location of laterals, mains, grassed waterways, and county maintenance/repair ditches. The Applicant will make efforts to conduct a perimeter dig utilizing a tile search trench and consult with owners of all parcels adjacent to the property, the county soil and water conservation district, and the county to request drainage system information over those parcels. The Applicant shall consult with the county engineer for tile located in a county maintenance/repair ditch.
 - b) locate and replace all field tile drainage systems

- c) agree to compensate parcels owners affected by damage to functioning field tile drainage systems and soils resulting from the construction, operation, and/or maintenance of the facility in agricultural areas for damage to crops or other agricultural activities.
- (33) At least 30 days prior to the preconstruction conference, the Applicant shall submit an updated decommissioning plan and total decommissioning cost estimate without regard to salvage value on the public docket that includes: (a) a provision that the decommissioning financial assurance mechanism include a performance bond where the company is the principal, the insurance company is the surety, and the Ohio Power Siting Board is the obligee; (b) a timeline of up to one year for removal of the equipment; (c) a provision to monitor the site for at least one additional year to ensure successful revegetation and rehabilitation; (d) a provision where the performance bond is posted prior to the commencement of construction; (e) a provision that the performance bond is for the total decommissioning cost and excludes salvage value; (f) a provision to coordinate repair of public roads damaged or modified during the decommissioning and reclamation process; (g) a provision that the decommissioning plan be prepared by a professional engineer registered with the state board of registration for professional engineers and surveyors; and (h) a provision stating that the bond shall be recalculated every five years by an engineer retained by the Applicant.
- (34) Prior to the commencement of construction, the Applicant shall finalize a MOU with OHPO to avoid cultural resources with potential adverse effects due to the project and to outline procedures to be followed if previously unidentified sites are discovered during construction. The Applicant shall submit the MOU to Staff and file the MOU on the docket of this case. The Applicant shall not construct within the 15 percent of the archaeological survey area not yet surveyed for archaeological resources.
- (35) At the time of solar panel end of life disposal, retired panels marked for disposal shall be sent to an engineered landfill with various barriers and methods designed to prevent leaching of materials into soils and groundwater.
- (36) Prior to commencement of construction, the Applicant shall submit to Staff for approval a solar panel perimeter fence type that is both small-wildlife permeable and aesthetically fitting for a rural location. This condition shall not apply to substation fencing.
- (37) At least 30 days prior to the preconstruction conference, the Applicant shall demonstrate that it has implemented a setback of at least 30 feet from the solar facility fence line to the public roads edge line. Alternatively, the Applicant may demonstrate that its solar fence is outside the clear zone width of the nearest public road; this demonstration should include the roads' design speed, design average daily traffic, applicable slopes, and accident history.



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Case No(s). 21-0117-EL-BGN

Summary: Staff Report of Investigation Recommending Denial of Certificate electronically filed by Mr. Matt Butler on behalf of Staff of OPSB