

**BEFORE THE OHIO POWER SITING BOARD**

**In the Matter of the Application of** )  
**Nestlewood Solar I LLC** )  
**for a Certificate of Environmental** ) **Case No. 18-1546-EL-BGN**  
**Compatibility and Public Need** )

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**DIRECT TESTIMONY OF JOSEPH JORDAN**

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2 **Q.1. Please State your name, title, and business address.**

3 **A.1.** My name is Joe Jordan. I am a Project Development Director, Energy with  
4 Lendlease Energy Development, LLC (“Lendlease Energy”), 909 Lake Carolyn Parkway,  
5 Suite 260, Irving, TX 75039. The sole member and manager of Applicant, Nestlewood  
6 Solar I LLC (Applicant”), is Lendlease Energy, which is a wholly owned affiliate of  
7 Lendlease Americas, Inc. I am the development director for the Nestlewood Solar  
8 Project (“Project”).

9 **Q.2. What are your duties as a Project Development Director, Energy?**

10 **A.2.** I am responsible for the development of all of the solar energy projects being  
11 developed by Lendlease Energy in the eastern United States. My responsibilities include,  
12 but are not limited to, establishing and managing relationships with elected officials,  
13 regulators, and community opinion leaders to support project development; identifying  
14 prospective projects with suitable solar resources and electric transmission access;  
15 developing and managing project budgets; managing environmental study and permitting  
16 processes; managing third party consultants; supporting financial analysis and modeling  
17 of the project economics; and managing a team of other development managers who are  
18 responsible for the same items.

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

2 **A.3.** I have more than 10 years of experience in power generation development and  
3 project finance. I have managed the acquisition, development, and project financing of  
4 more than 1600 MW of solar, natural gas, and wind power generation power projects that  
5 are currently in operation across the PJM and ERCOT interconnections. I have a MBA  
6 from the University of Texas at Austin and a BA in International Studies from Austin  
7 College in Sherman, Texas.

8 **Q.4. On whose behalf are you offering testimony?**

9 **A.4.** I am testifying on behalf of the Applicant.

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

11 **A.5.** There are several purposes. First, I would like to provide background information  
12 concerning the Application and Exhibits submitted to Staff on December 14, 2018  
13 (Company Exhibit 1). Second, I will summarize the major items in the Application and  
14 sponsor its admission into evidence along with the exhibits, certificates of service, proofs  
15 of publications, and other letters required by Ohio Power Siting Board rules. Third, I will  
16 summarize the Notification of Modification of the Project Footprint filed on May 24,  
17 2019 (Company Exhibit 2). Finally, I will be responding to the recommendations by the  
18 Staff in the Staff Report.

19 **Q.6. Would you please provide a summary and overview of the proposed facility?**

20 **A.6.** The Applicant is proposing to build the Project as an 80 MW solar-powered  
21 generating facility in Tate Township, Clermont County, Ohio and Clark Township,

1 Brown County, Ohio. The project would consist of large arrays of ground-mounted  
2 photovoltaic modules, commonly referred to as solar panels. The Project also includes  
3 associated support facilities, such as access roads, meteorological stations, buried  
4 electrical collection lines, inverter pads, and a substation. The energy generated at the  
5 Project will deliver power to a single point of interconnection at the South Bethel-Brown  
6 69 kilovolt (kV) substation (“Utility Switchyard”).

7 **Q.7. What is the general purpose of the Project?**

8 **A.7.** The general purpose of the Project is to produce solar-powered electricity that will  
9 maximize energy production from solar resources in order to deliver clean, renewable  
10 electricity to the Ohio bulk power transmission system to serve the needs of electric  
11 utilities and their customers. The electricity generated by the Project will be transferred  
12 to the transmission grid operated by PJM Interconnection, LLC for sale at wholesale to  
13 the grid or under a power purchase agreement.

14 **Q.8. Would you describe the Project Area, proposed Project and the power  
15 generation potential of the solar farm?**

16 **A.8.** The Project Area is located within approximately 610 acres of leased privately  
17 owned land in Clermont County and Brown County. The Project will be located on  
18 previously disturbed land that has been mostly cleared for agriculture and is fairly level.  
19 The predominant industry is agriculture.

20 The Project Area is rural, and is largely characterized by medium- to large-sized farms  
21 with interspersed areas of wooded vegetation. Undeveloped land includes actively  
22 cultivated fields, small blocks and rows of trees and other vegetation, and old fields.

1 Existing features in the Project Area include two electric transmission lines, public roads,  
2 single family homes and farm buildings. The Project Area itself does not include any  
3 population centers, major industries or notable landmarks.

4 The Project will generate electricity with conventional solar panels, which will be affixed  
5 to metal racking. The racking will include piles that will be driven, or screws that will be  
6 rotated, into the ground in long rows or “arrays”. Arrays will be grouped in several large  
7 clusters, each of which will be fenced, with locked gates, for equipment security and  
8 public safety (“Solar Field”).

9 Each of the Project’s arrays will use “tracking” racking. Tracking arrays will run in an  
10 east-west direction and will generally face south and track the sun. Each array will  
11 consist of panels mounted on fixed vertical post foundations that will be driven into the  
12 ground to a depth of approximately 10 feet.

13 The solar panel technology for the Project will be one of two basic types: crystalline or  
14 thin-film. Crystalline modules are silicon-based. Thin-film modules use one of several  
15 alternative chemistries (such as copper indium gallium selenide).

16 Although the specific module vendor has not been selected, “Tier 1” modules will be  
17 used for the Project. At a capacity of 80 MW alternating current, the Project will use  
18 approximately 284,000 modules. The anticipated annual net capacity factor for the  
19 Project is anticipated to be approximately 25%. Accounting for the total generating  
20 capacity of 80 MW, anticipated operating times, and panel capacity factors, the Project  
21 will generate approximately 175,000 megawatt-hours of electricity each year.

1 **Q.9. Would you describe the May 24, 2019 submittal of the Notification of**  
2 **Modification of the Project Footprint?**

3 **A.9.** The Applicant modified the footprint of the Project by shifting the location of an  
4 underground collection line easement. Importantly, the change in easement location will  
5 result in no additional impacts within the overall Project footprint. The length of the new  
6 easement (1,200 feet) will remain approximately the same as the previously identified  
7 easement corridor. The total amount of ground to be disturbed will remain the same, or  
8 less. The new easement corridor will run on previously disturbed ground currently used  
9 for the grazing of livestock. I am sponsoring the supplemental information for the  
10 modified Project footprint as described in Company Exhibit 2.

11 **Q.10. Are the December 14, 2018 Application and Exhibits, responses to Staff Data**  
12 **Requests, and Notification of Modification (the “Notification”) of the Project**  
13 **footprint true and accurate to the best of your knowledge and belief?**

14 **A.10.** Yes, the Application and Exhibits (Company Exhibit 1) as well as all of the  
15 Responses to the Staff Data Requests (Company Exhibit 3) and the Notification  
16 (Company Exhibit 2) are true and accurate and were prepared under my direction.

17 **Q.11. Were copies of the accepted Application served on local public officials and**  
18 **libraries in accordance with Rule 4906-3-07(A) of the OAC?**

19 **A.11.** Yes, I directed that such service take place and am sponsoring Company Exhibit  
20 4.

21 **Q.12. Did the Applicant file and serve a copy of the letter sent to property owners**  
22 **and tenants within the Project Area or contiguous to the Project Area?**

1 **A.12.** Yes, pursuant to Rule 4906-3-03(B) of the OAC, I directed that a letter be sent to  
2 certain property owners and local government officials on October 17, 2018 announcing  
3 the Public Information Meeting on November 7, 2018. Subsequent letters were mailed  
4 on March 22, 2019 pursuant to Rule 4906-3-09(A)(1) and on May 22, 2019 pursuant to  
5 Rule 4906-03-09(A)(2) of the Ohio Administrative Code. See Company Exhibit 5 which  
6 I am sponsoring.

7 **Q.13. Did the Applicant cause notice of the informational public meeting, the**  
8 **Application, and the hearing dates to be published in local newspapers?**

9 **A.13.** Yes, I directed such noticed be published in the Clermont Sun and the Brown  
10 County Press. See Company Exhibit 6.

11 **Q.14. Would you please list the consultants that the Applicant retained to prepare**  
12 **this Application and Exhibits and their respective areas of responsibility?**

13 **A.14.** Yes. The Applicant worked with Tetra Tech, Inc. (“Tetra Tech”), acting as lead  
14 consultant on the Application, to coordinate the studies used to generate the Application  
15 and Exhibits. The consultants and their respective areas of responsibility include:

- 16 • Tetra Tech – Economic and Fiscal Assessment, Acoustic Assessment, Cultural  
17 Resources Survey, and Visual Impact Analysis
- 18 • Smart Services, Inc. – Waters of the United States Delineation and Assessment

19 **Q.15. Do you believe that the proposed Project will have a positive impact on the**  
20 **local community?**

1 **A.15.** Yes. The Project will support approximately 314 jobs during construction and up  
2 to 5 jobs in Ohio during the operations period. Along with associated wages and services  
3 provided locally to support construction and operations, the community will benefit from  
4 a payment in lieu of taxes amounting to \$560,000 per annum.

5 **Q.16. Has the Project been designed to achieve minimum impacts?**

6 **A.16.** Yes. Since 2016 the Applicant has been working with landowners, elected  
7 representatives and community members to discuss the development of the Project.  
8 Those discussions have been positive, and helpful to the Project. We have designed the  
9 Project to minimize or eliminate potential impacts of construction and operation.

10 Temporary construction activities are expected to have typical and relatively limited  
11 impacts given their intermittent nature, time of day restrictions, and use of best  
12 management practices. Increased traffic during construction will be managed and will  
13 cease when the Project is operational. The Applicant will obtain required permits and  
14 authorizations including, for example, Nationwide Permits from the U.S. Army Corps of  
15 Engineers.

16 The Applicant engaged consultants to study the potential environmental, ecological,  
17 cultural, and visual impacts of the Project. Those studies are attached to the Application  
18 and, as Lynn Gresock of Tetra Tech explains in her separate testimony, show few or no  
19 expected impacts from the Project.

20 The Project has been sited to minimize adverse impacts. Proposed tree clearing has been  
21 minimized by careful layout and design. Although our studies found no listed species in  
22 the 610-acre Project Area, the Applicant will take measures to avoid impacts to

1 potentially suitable habitat for listed bat species by minimizing and seasonally limiting  
2 tree clearing where bat species could nest or forage in the summer months. The  
3 Applicant will also avoid all clearing within wooded wetlands, and tree clearing will only  
4 occur along various woodland edges to create a broader layout and shade free area.

5 The Applicant will also avoid any areas identified as potential habitat for the Kirtland's  
6 snake.

7 Sound levels from the operation of the Project will be essentially inaudible for all  
8 participating and non-participating residences due to the silent operating nature of solar  
9 arrays and by locating central inverters away from residences.

10 Visual impacts of the Project will be mitigated by the flat nature of the terrain, the low  
11 profile of the solar panels, efforts to preserve natural vegetative buffers, and through  
12 selective vegetative screening, including landscaping with pollinator habitat where  
13 practicable.

14 Other operational impacts will be minimal. The Project will generate no wastewater  
15 (apart from the routine management of storm-water flows), no air emissions, and minimal  
16 solid waste. Operational activities apart from routine maintenance of the Project may  
17 include washing the solar panels (when not fully cleaned by rainfall) and controlling  
18 vegetative growth through predominantly mechanical means. The Applicant will comply  
19 with stormwater management requirements, including Ohio EPA's construction  
20 stormwater general permit.

1 Lastly, the Applicant will implement a complaint resolution procedure to ensure any  
2 complaints regarding construction and operation of the Project are appropriately  
3 investigated and resolved.

4 **Q.17. How did the Applicant decide to locate the Project in Clermont County and**  
5 **Brown County?**

6 **A.17.** The Applicant chose to pursue the Project in southwestern Ohio for a variety of  
7 reasons. First, the area offers an attractive combination of strong solar energy potential  
8 and robust transmission system. Generating power close to the large metropolitan areas  
9 of Cincinnati, Dayton and Columbus provides power where it is most needed, and also  
10 reduces issues of transmission congestion often presented by generating power distant  
11 from load. The need for power in the area is strong and the associated transmission  
12 system can cost-effectively accommodate large amounts of additional power.

13 Within the general region, the study area was determined largely by the location of the  
14 Utility Switchyard. A key ingredient for generating the most affordable electricity for  
15 Ohio consumers with solar panels is identifying those locations at which substantial new  
16 generation may be injected without extensive and costly upgrades to the transmission  
17 system. Applicant's preliminary studies indicated that delivering power to Ohio  
18 consumers through the Utility Switchyard would be highly cost-effective. This has been  
19 confirmed by the results of the formal transmission studies conducted regarding the  
20 Project by PJM Interconnection, Inc.

21 **Q.18. Will the Applicant be sponsoring witnesses to support the Application in**  
22 **addition to your testimony?**

1 **A.18.** In addition to my testimony, the Applicant will present testimony by Lynn  
2 Gresock, Vice President at Tetra Tech, relative to certain studies contained in the  
3 Application.

4 **Q.19 How will the Applicant address viewshed concerns?**

5 **A.19.** It is important to recognize that the Project will have a relatively modest visual  
6 impact on the area. The Project Area is generally flat, and the solar panels will be  
7 installed almost entirely on existing grades and so will follow the natural contours of the  
8 land. The solar panels will be no more than 14 feet high at their highest point, and will  
9 have a much lower profile during most of the day. The rotation of the panels during the  
10 day, as they follow the path of the sun, will be too slow for observers to perceive. Thus,  
11 the Solar Fields will present a relatively low profile.

12 The Applicant, in order to mitigate viewshed impacts, will avoid removing existing  
13 vegetative buffers on the perimeter of the Project Area and employ industry best practices  
14 in designing a landscape plan. Windrows and forested areas will be maintained wherever  
15 possible to preserve existing views. The Applicant will also develop a landscape plan to  
16 develop a strategy to mitigate viewshed impacts where necessary and applicable. This  
17 plan will include, but is not limited to, options such as alternative fencing, planting of  
18 pollinator habitat along fences to soften and obscure the view, and robust screening with  
19 native shrubs or low growing trees in certain situations.

20 The mitigation measures to be used by the Applicant are industry best practices for  
21 mitigation developed in solar markets across the U.S. Lendlease Energy has been  
22 involved in the construction of approximately 140 MW of solar projects throughout the

1 U.S. and actively participates in a variety of industry groups from which these industry  
2 best practices arise. The institutional knowledge of developing and designing well-sited,  
3 low-impact solar farms has been applied to the Project and is intended to minimize and  
4 prospectively address any complaints or concerns.

5 **Q.20. Are you generally familiar with the impact of commercial-scale solar projects**  
6 **on property values in the area surrounding the project?**

7 **A.20.** Yes. As I previously noted, I have over 10 years' experience in power generation  
8 development and project finance. In fact, as part of the development of a commercial-  
9 scale project in New Jersey, I was involved in the an analysis showing that, due to the  
10 absence of any odor, essentially zero noise generation, and relatively low visual impact  
11 and ready availability of screening, a solar facility would have no material impact on the  
12 value of adjacent homes.

13 **Q.21. Is there any reason to expect that the conclusions of the study you previously were**  
14 **involved with would be different from a study evaluating the impact of the Project?**

15 **A.21.** No.

16 **Q.22. What is your overall assessment of the potential impacts of the Project on property**  
17 **values?**

18 **A.22.** Based on my experience with other commercial solar projects and my familiarity with the  
19 Project, I would not expect the Project to be the cause of a decrease in property values in the  
20 project area.

1 **Q.23. Have you reviewed the Staff Report issued on May 15, 2019 and does the Applicant**  
2 **have any concerns with or proposed revisions to any of the conditions recommended by the**  
3 **Staff in the Staff Report of Investigation?**

4 **A.23.** Yes, I have reviewed the Staff Report. The Applicant is generally satisfied with the  
5 Recommended Conditions but recommends minor revisions. I believe the modifications  
6 presented to the conditions are reasonable and will result in the same level of oversight by the  
7 Board's Staff as well as methods to ensure the Project has minimal impacts on nearby residences.  
8 The Applicant recommends the following revisions:

9 Condition 8

10 Condition 8 should be modified so that the Applicant is required to provide copies of permits and  
11 authorizations, including all supporting documentation, to the Staff at least seven days prior to  
12 the applicable construction activities as opposed to within seven days of issuance or receipt.  
13 Because of potential delays in transmission, this would seem to be a more orderly process for  
14 everyone involved. Specifically, the Applicant recommends that Condition 8 be modified as  
15 follows:

16 Prior to the commencement of construction activities in areas that require permits  
17 or authorizations by federal or state laws and regulations, the Applicant shall  
18 obtain and comply with such permits or authorizations. The Applicant shall  
19 provide copies of permits and authorizations, including all supporting  
20 documentation, to Staff at least within seven days prior to the applicable  
21 construction activity of issuance or receipt by the Applicant. The Applicant shall  
22 provide a schedule of construction activities and acquisition of corresponding  
23 permits for each activity at the preconstruction conference.

24  
25 Condition 18

26  
27 Condition 18 should be modified to clarify that a landowner in the Project Area has the  
28 discretion to allow any field tile systems that have been damaged during construction of the

1 Project to remain unrepaired. Specifically, the Applicant recommends that Condition 18 be  
2 modified as follows:

3 The Applicant shall avoid, where possible, or minimize to the extent practicable,  
4 any damage to functioning field tile drainage systems and soils resulting from the  
5 construction, operation, and/or maintenance of the facility in agricultural areas.  
6 Unless otherwise agreed to by the landowner, Damaged field tile systems shall  
7 be promptly repaired to at least original conditions or modern equivalent at the  
8 Applicant's expense. If the affected landowner agrees to not having the field tile  
9 system repaired, they may do so only if the field tile systems of adjacent  
10 landowners is unaffected by the non-repair of the landowner's field tile system.

11

12 **Q.24. Does this conclude your direct testimony?**

13 **A.24.** Yes, it does. However, I reserve the right to offer testimony in support of any stipulation  
14 reached in this case or, if necessary, in rebuttal.

**CERTIFICATE OF SERVICE**

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Thomas Lindgren  
[thomas.lindgren@ohioattorneygeneral.gov](mailto:thomas.lindgren@ohioattorneygeneral.gov)

Chad Endsley  
[cendsley@ofbf.org](mailto:cendsley@ofbf.org)

Leah Curtis  
[lcurtis@ofbf.org](mailto:lcurtis@ofbf.org)

Amy Milam  
[amilam@ofbf.org](mailto:amilam@ofbf.org)

/s/ MacDonald W. Taylor  
\_\_\_\_\_  
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Summary: Testimony Direct Testimony of Joseph Jordan electronically filed by Mr. MacDonald W Taylor on behalf of Nestlewood Solar I LLC