

**BEFORE THE OHIO POWER SITING BOARD**

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

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**DIRECT TESTIMONY OF MARK J. BONIFAS**

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

2           **A.1.**   My name is Mark J. Bonifas. I am a Civil Engineering Practice Leader/Principal  
3   at Hull & Associates, Inc. My business address is 6397 Emerald Parkway, Suite 200, Dublin,  
4   OH 43016.

5   **Q.2.   What are your duties as a Civil Engineering Practice Leader/Principal?**

6           **A.2.**   As the Civil Engineering Practice Leader, I manage civil engineering, renewable  
7   energy and land development projects in multiple states providing creative strategies to secure  
8   funding, meet regulatory requirements and streamline the due diligence, design, permitting, and  
9   construction phases of a project. I manage multi-disciplinary teams, interact with local and state  
10   agencies, and lead environmental assessments, remedial actions, and permitting and engineering  
11   design for infrastructure at large commercial and industrial sites. I am part of our business  
12   development team that focuses on the energy, environmental and infrastructure markets. Our  
13   clients include public and private clients in the energy, healthcare, retail, office, recreational,  
14   ecological restoration, commercial, mixed-use, and industrial markets. I also manage our  
15   Dublin, Ohio engineering group and provide technical engineering support for Hull's other  
16   offices.

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

2 **A.3.** I have a Bachelor of Science in Civil Engineering from the Ohio State University  
3 and have been practicing engineering as an engineering consultant for 31 years. I have been a  
4 registered Professional Engineer in Ohio for 26 years and I'm also a registered Professional  
5 Engineer in 15 other states. I have been performing civil engineering services on renewable  
6 energy projects for over 10 years, and have worked on many Ohio Power Siting Board approved  
7 projects from application through construction. I have extensive experience evaluating road  
8 impacts, developing and implementing decommissioning plans, and constructing projects,  
9 including solar projects.

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

11 **A.4.** I am testifying on behalf of the Applicant, Nestlewood Solar I LLC in support of  
12 its application filed in Case No. 18-1546-EL-BGN.

13 **Q.5. Have you reviewed the Joint Stipulation filed in this case on June 12, 2019?**

14 **A.5.** Yes.

15 **Q.6. What is the purpose of your testimony?**

16 **A.6.** The purpose of my testimony is to describe the potential traffic and road impacts  
17 resulting from the Nestlewood Solar Project, to discuss the decommissioning plan described in  
18 the Application, to discuss the role of the on-site environmental specialist, to discuss the process  
19 for construction of the Project, and to discuss the protection of drain tile in agricultural fields in  
20 the Project Area.

21 **Q.7. Please describe the potential impact of the Project on roads and bridges.**

22 **A.7.** The Application notes that the Project is expected to have limited effect on roads,  
23 bridges, and traffic in the local community. The majority of the equipment to be transported to

1 the Project Area will be on delivery vehicles that are of legal dimension and legal weight. The  
2 only expected oversize and overweight load is the delivery of the step-up transformer that will be  
3 installed at the project substation. For an oversized/overweight load, a Special Hauling Permit  
4 will be obtained from the Ohio Department of Transportation (ODOT). Because of this, no special  
5 improvements to roads or bridges in the Project Area are anticipated to be required. No delays to  
6 local traffic should be experienced except where the delivery vehicles may need to travel on narrow  
7 roadways. These delays would be intermittent. As a part of the application process, Nestlewood  
8 developed a transportation management plan attached to the Application as Appendix E.

9 **Q.8. What were the conclusions of the Transportation Management Plan?**

10 **A.8.** It concluded that given the current condition of all roads to be used and the nature  
11 of the construction traffic, no material adverse impact to the roads from construction vehicles or  
12 equipment delivery is anticipated to occur.

13 That said, the Applicant committed to conduct a pre-construction survey of local roads. The pre-  
14 construction road survey will create a baseline assessment for road conditions and identify any  
15 possible impacts and mitigation measures during construction activities. The pre-construction  
16 survey will inform the final transportation management plan and may include a road use agreement  
17 with the applicable local authorities.

18 **Q.9. What is your overall assessment of the potential traffic and road impacts of the**  
19 **Nestlewood Solar Project?**

20 **A.9.** Based on my experience, I would not expect the construction or operation of the  
21 Project to have a negative effect on the travelling public. I would also not expect the construction  
22 or operation of the Project to have a negative effect on the condition of the local roadways that  
23 could not be maintained during construction or restored post-construction. During operation and

1 maintenance of the facility, there will be very little increase in traffic as solar electric generating  
2 facilities are normally unmanned. There will be occasional maintenance vehicles and additional  
3 traffic will be negligible.

4 Further, Joint Stipulation Condition 29 requires that the Applicant obtain all required  
5 transportation permits prior to construction. Additionally, the Applicant will coordinate with local  
6 and state officials including the county engineer, the Ohio Department of Transportation, local law  
7 enforcement, and health and safety officials regarding any temporary road closures, lane closures,  
8 road access restrictions, and traffic control necessary for construction and operation of the facility.  
9 This coordination will ensure that any traffic or road impacts resulting from the Project will be  
10 minimized, and is a common Board condition in certificates.

11 **Q.10. How will the Project be decommissioned?**

12 **A.10.** The Application outlines, at pages 33-37, the plan for decommissioning that  
13 includes financial security to be in place per landowner agreements, preparation steps for  
14 decommissioning, equipment removal, access road removal, and site reclamation steps. I will  
15 summarize these steps in my testimony, but, in general, decommissioning will involve the removal  
16 of all system components and the restoration of the site to conditions similar to pre-construction.  
17 Financial security for the decommissioning of the Project in the form of cash, parental guarantee,  
18 letter of credit, or performance bond will be put into place. The amount of financial security  
19 required will be determined, starting in Year 10 of the Project's life, by an independent Ohio-  
20 licensed Professional Engineer that will ascertain Project decommissioning costs as well as the  
21 anticipated salvage value associated with the Project's components. The difference between these  
22 two estimates will be the required financial security amount.

1 Prior to the start of decommissioning work, the site will be assessed for existing conditions.  
2 Decommissioning and removal of Project structures from the site is anticipated to occur within  
3 one year following discontinuation of operations of the Project. Erosion and sediment controls  
4 will be installed on the site prior to decommissioning. Access roads and fencing will temporarily  
5 remain in place for use by the decommissioning and site restoration workers until  
6 decommissioning activities are completed.

7 Following preparation work, all above-ground equipment (including wiring, panels, racking, and  
8 inverters) will be removed, after the Project is de-energized by disconnection from the utility  
9 power grid. Buried cable will be removed to a depth of 3 feet below final grade. In addition, any  
10 holes and/or depressions will be filled. Steel pilings which supported the module racking will be  
11 mechanically removed and any resulting holes will be backfilled. The concrete transformer and  
12 interconnection equipment pads will be broken up and removed.

13 The on-site access roads servicing the Project and the security fencing around the Project will  
14 remain in place during decommissioning activities to support the removal of equipment. Once  
15 removal activities are completed, discussion with the landowners will occur to determine if the  
16 roads or security fencing will be beneficial for future use of the site. If the access roads or security  
17 fencing is determined to be beneficial for future use of the site, these facilities may remain in place  
18 at the landowners discretion. Access roads that will not be utilized to support future use of the site  
19 will be restored to pre-construction conditions.

20 Once all Project equipment has been removed, additional activities will occur to return the property  
21 back to conditions similar to pre-construction. Reclamation activities will include replacing  
22 topsoil where topsoil has been removed, decompacting areas where compaction has occurred, and  
23 establishing vegetative cover consistent with pre-construction conditions after the closure of the

1 facility. Any excavated areas remaining after the removal of equipment pads, access road base  
2 material, or fence posts will be backfilled with locally imported soil.

3 **Q.11. Do you believe the decommissioning plan is acceptable?**

4 **A.11.** Yes. In my experience, the plan, as outlined in the Application, will ensure  
5 appropriate decommissioning of the Project so that the Project Area can be returned to another use  
6 after the end of the Project's useful life. Given the relatively low impact of a solar farm compared  
7 to the impact of other forms of electricity generation, decommissioning of the Project should not  
8 be a significant impediment to future uses of the Project Area, including a potential return to  
9 agricultural use.

10 **Q.12. Are you familiar with the role of the environmental specialist that is contemplated in**  
11 **the Joint Stipulation?**

12 **A.12.** Yes. Condition 26 in the Joint Stipulation requires that:

13 The Applicant shall have an environmental specialist on site during construction  
14 activities that may affect sensitive areas as shown on the Applicant's final approved  
15 construction plan as approved by Staff. Sensitive areas include, but are not limited  
16 to, areas of vegetation clearing, designated wetlands and streams, and locations of  
17 threatened or endangered species or their identified habitat. The environmental  
18 specialist shall be familiar with water quality protection issues and potential  
19 threatened or endangered species of plants and animals that may be encountered  
20 during project construction.

21 Hull & Associates is currently acting as the project environmental specialist for another major  
22 utility facility in Ohio that holds a certificate issued by the Board that includes a very similar  
23 condition. Our role as the environmental specialist is not to be an independent arbiter, but rather  
24 to ensure that the Project is constructed in compliance with the approved construction plan while  
25 avoiding potential impacts to delineated surface waters, threatened and endangered species or their  
26 habitat, or other sensitive areas identified in the Joint Stipulation. In other words, the  
27 environmental specialist is an on-site consultant conducting observation and inspection activities

1 when construction is occurring near sensitive areas and a resource for the Applicant and its  
2 contractors.

3 **Q.13. Are you familiar with the construction of a solar facility like the Project?**

4 **A.13.** Yes. I am familiar with the construction activities and techniques used to construct  
5 a solar facility. I was the project manager for design, construction and commissioning of several  
6 solar facilities ranging from 93kW to 250kW in size. I was involved in all aspects of these projects  
7 including energy assessment modelling, schematic and final design, environmental and non-  
8 environmental permitting, procurement of equipment, construction, and commissioning of the  
9 facilities. I have also been a Project Manager for various aspects of utility-scale solar facilities as  
10 large as 200MW. These activities have included energy assessment modelling, schematic design,  
11 environmental and non-environmental permitting, and preparation of various studies and plans  
12 related to groundwater, hydrogeology, geotechnical studies and investigations, stormwater  
13 permitting and planning, transportation studies, flood plain evaluations and water sourcing studies.

14 **Q.14. Can you please describe the techniques and methods used to construct a solar**  
15 **facility like the Project?**

16 **A.14.** Yes. In general, in contrast to other forms of power generation, construction of a  
17 solar facility is relatively less intensive, utilizes smaller construction equipment, and is repetitive  
18 and less complex. Construction of panel arrays may be sequenced or may be constructed  
19 concurrently, but in any event will follow the same general procedures as outlined in the  
20 Application. Construction will begin with site preparation that can include tree clearing (within  
21 the appropriate season to avoid potential impact to summer-roosting bats) and installation of  
22 erosion control best management practices (BMPs). Where natural resource areas such as  
23 wetlands and streams are in proximity to construction activities, they will be staked to ensure

appropriate avoidance. In general, there will be very limited grading for a solar project that will be localized to private access roads and substation locations. The racking and panels for solar facilities can generally follow existing ground contours, thereby minimizing surface disturbance. Most of the cabling can be rack-mounted with some collector cables between inverter pads and the substation being buried in trenches. Access roads will be constructed in order to support construction, followed by delivery of racking, solar panels and electrical equipment. Foundations will be installed to support the inverter/transformer installations, and piles (posts) will be driven to support the steel racks. Steel frames will be attached to the racks to support the solar panels. The racks for this project will be single-axis tracking racks oriented in a north-south direction. The racks will follow the sun from the east to the west on a daily basis. Solar panels will be attached to the racks and the panels will be connected together with cabling that can be either attached to the racks or buried in the ground. The individual solar panel cables are connected to combiner boxes. The combiner boxes are connected to inverter/transformer locations where the electricity is converted from DC to AC. The inverter/transformers are then connected to the project substation where the power is then connected to the high-voltage utility lines.

Nestlewood notes in its application that no substantial grading requirements are anticipated. As each portion of installation is completed, the ground surface will be stabilized, although BMPs will remain in place until final stabilization of the project area occurs. Upon final installation of the arrays, security fencing and gates will be installed, signage established, and final site stabilization, testing, and commissioning will be completed.

During pile driving for the posts, there will be some noise associated with the installation of the piles. Each pile can be driven in 60 to 90 seconds, and the majority of time spent installing the piles is moving equipment from one installation location to the next. This construction activity



1 will result in some unavoidable noise, but it will be limited in duration at any given location, and  
2 will also be limited to certain hours by the Joint Stipulation Condition 10. In my years of  
3 construction experience, including pile driving, the limitation on hours of construction is  
4 reasonable.

5 **Q.15. How will the Project protect and, if necessary, repair drain tile in the Project Area?**

6 **A.15.** Where Project components are proposed on agricultural fields, an attempt will be  
7 made to determine the location of any subsurface drainage tiles through consultation with the  
8 landowner and/or review of public records. Nestlewood committed in the Application that any  
9 drainage tiles damaged during construction will be identified, documented, and repaired. It is  
10 anticipated that a local drain tile contractor or the farmer tending the land will be involved in repair  
11 activities. In addition, the Joint Stipulation Condition 18 imposes a similar requirement on  
12 Nestlewood:

13 The Applicant shall avoid, where possible, or minimize to the extent practicable,  
14 any damage to functioning field tile drainage systems and soils resulting from the  
15 construction, operation, and/or maintenance of the facility in agricultural areas.  
16 Unless otherwise agreed to by the landowner, damaged field tile systems shall be  
17 promptly repaired to at least original conditions or modern equivalent at the  
18 Applicant's expense. If the affected landowner agrees not to have the field tile  
19 system repaired, they may do so only if the field tile systems of adjacent landowners  
20 would be unaffected by the non-repair of the landowner's field tile system.

21 This condition not only requires Nestlewood to promptly repair any damage that is done to drain  
22 tile in the Project Area, but also to promptly repair drain tile in the Project Area to protect the field  
23 tile system of an adjacent landowner if the adjacent landowner's drain tile system is affected by  
24 the drain tile system in the Project Area.

25 **Q.16. Do you believe the Board has sufficient information to be able to consider impacts to**  
26 **public roads and bridges, the construction and decommissioning of the project, protecting**

1 field drain tile, and the role of the specialist in Condition 26 as these things relate to the  
2 Project?

3 A.16. Yes. I have worked on a number of utility-scale projects that have received Board  
4 certificates, and the information in the Application is consistent with my experience and what I  
5 would expect to be necessary to evaluate the maximum potential impacts of the proposed project.

6 Q.17. Does this conclude your direct testimony?

7 A.17. Yes, it does.

### **CERTIFICATE OF SERVICE**

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Summary: Testimony Direct Testimony of Mark Bonifas electronically filed by Mr. MacDonald W Taylor on behalf of Nestlewood Solar I LLC