

**BEFORE THE OHIO POWER SITING BOARD**

<b>In the Matter of the Application of Ross County Solar, LLC for a Certificate of Environmental Compatibility and Public Need.</b>	) ) ) ) )	<b>Case No. 20-1380-EL-BGN</b>
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**DIRECT TESTIMONY OF AUGUST CHRISTENSEN**

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

**A.1.** My name is August Christensen. I am a Director of Solar and Storage, civil engineer in the Power Division, and a firm shareholder at Westwood Professional Services, Inc. (“Westwood”). My business address is: 3701 12th St. N, Suite 206, St. Cloud, MN 56303.

**Q.2. What are your duties as a Director of Solar and Storage?**

**A.2.** In this role, I have overseen the engineering and construction services for many solar projects including the 132 MWac Finley Solar Farm located in New South Wales, Australia, the 100 MWac Southampton Solar Project in Virginia, the 200 MWac Great Valley Solar Project and 200 MWac RE Tranquility LLC Solar Project, both located in California, and 369.5 MWac of the Alamo Solar Portfolio throughout Texas. I have been involved with the planning and design of projects that include drain tile within the project boundary, including the 100 MWac Junction Solar Project located in Illinois, the 100 MWac Aurora Solar Project in Minnesota, and multiple community solar projects within Minnesota and Illinois. In addition to these planning and design services, I have also been involved with the preparation of decommissioning estimates for many solar projects, including the 274 MWac Yellowbud Solar Project in Ohio, 128 MWac Wild Springs Solar Project in South Dakota, the 100 MWac Junction Solar Project in Illinois, and the 100

1 MWac Regal Solar Project and 100 MWac Elk Creek Solar Project, both located in  
2 Minnesota.

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

4 **A.3.** I have a Bachelor of Science in Civil Engineering from the North Dakota State  
5 University and have been practicing engineering as an engineering consultant for 16 years.  
6 I am a registered Professional Civil Engineer in Connecticut, Maryland, Minnesota,  
7 Mississippi, New Jersey, and Rhode Island, and have held my license in Minnesota for  
8 eleven years. I have been performing civil engineering services, especially with regard to  
9 drainage tile and decommissioning, on renewable energy projects for over ten years.

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

11 **A.4.** I am testifying on behalf of the Applicant, Ross County Solar, LLC (“Applicant”),  
12 in support of its Application filed in Case No. 20-1380-EL-BGN.

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

14 **A.5.** The purpose of my testimony is to address the Ross County Solar Project  
15 (“Project”) Drain Tile Mitigation Plan which was attached to the Application as Exhibit E.  
16 I will also describe a decommissioning cost estimate my firm undertook on behalf of the  
17 Applicant, which is summarized in Appendix A to Exhibit N of the Application  
18 (Decommissioning Plan), summarize the result of that estimate, and provide my assessment  
19 of decommissioning activities with regard to the Project.

20 **Q.6. How will the Applicant protect and, if necessary, repair drain tile in the Project Area?**

21 **A.6.** As further explained in Exhibit E of the Application (Drain Tile Mitigation Plan),  
22 the Applicant has coordinated with Ross County to identify public drain tile systems, as  
23 well as the Ross County Soil and Conservation District for drain tile data they have on file

1 for private landowners. The Applicant has also regularly coordinated with participating  
2 landowners to obtain copies of available drain tile maps or spatial datasets. Data from  
3 these efforts was compiled and provided to the Ohio Power Siting Board (“OPSB”) as  
4 Appendix A to Exhibit E of the Application (Drain Tile Mitigation Plan). Under the Drain  
5 Tile Mitigation Plan, drain tiles will be avoided to the maximum extent practicable, and to  
6 the extent they cannot be avoided, the Applicant has committed in the Application that any  
7 drain tile mains damaged during construction will be identified, documented, and repaired.  
8 All repairs will be completed by a qualified contractor. Further, the Drain Tile Mitigation  
9 Plan ensures that no adverse impacts to drain tile systems extend outside the Project Area.  
10 Any agreement between the Applicant and a landowner that does not necessitate the repair  
11 of damaged drain tile will only be given effect to damaged drain tile located entirely on the  
12 landowner’s land. Examples of drain tiles that may not be repaired are lateral drain tile  
13 lines which function to remove water from existing fields to the drain tile mains. That  
14 function is not necessary for a solar facility as ground water can migrate naturally into the  
15 soil. That is why lateral drain tile lines that are damaged and contained within the Project  
16 Area may not be repaired, depending on the need to replace the lateral drain tile lines and  
17 subject to individual landowner agreements previously negotiated during the leasing  
18 process.

19 **Q.7. How will the Project be decommissioned?**

20 **A.7.** The Applicant included Exhibit N (Decommissioning Plan) as part of its  
21 Application. Exhibit N includes details on decommissioning activities, site restoration,  
22 cost estimates, and financial assurance. The Applicant will notify the OPSB Staff 30 days  
23 prior to the commencement of decommissioning activities. In general, decommissioning

activities will involve the removal of all system components such as panels, weather stations, inverters, electrical equipment, racking, scrap, foundation piles, access roads, electrical collection lines, fencing, and the substation. Depending on circumstances and landowner agreements, some components may remain in place, such as electrical collection lines buried at least 48 inches underground, the substation if other agreements necessitate its continued use, and access roads. Equipment removed from the site will be salvaged or recycled to the greatest extent practicable. Otherwise, it will be disposed of via a licensed solid waste disposal facility.

Following the completion of decommissioning activities, the site will primarily be converted back to pre-construction land uses. Land will be graded and decompacted to allow for agricultural use. For areas not to be returned to agricultural use, soils will be decompacted and reseeded to establish adequate vegetative cover. Topsoil conditions will be assessed to identify necessary topsoil additions or redistribution across the site to ensure productivity. I estimate that the decommissioning process, including the removal of materials and site restoration, will last approximately 12 to 18 months.

**Q.8. What is the projected cost of decommissioning?**

**A.8.** Westwood created a Decommissioning Report (Appendix A to Exhibit N) to evaluate the cost of full decommissioning, restoration of the Project Area, and proper disposition of all Project components, net of salvage value. Per our calculations, based on current recycling costs and salvage values, the net cost of decommissioning the Project was estimated to be approximately \$4,694,666. However, as we gain a better understanding of decommissioning of solar facilities over time, assess the value of solar equipment early in a project's life, and continue to monitor best practices for restoration following

1 decommissioning, we are finding that the anticipated costs of decommissioning are  
2 decreasing over time. Also, as noted in the Application, the net cost of the estimate may  
3 change based on the final Project layout. Thus, given the industry trend on  
4 decommissioning costs and to account for any changes in the final Project Layout, the  
5 Applicant will prepare an updated estimate based on the final Project design prior to  
6 obtaining financial security.

7 **Q.9. Please explain the financial security that will be put into place for decommissioning.**

8 **A.9.** Per the Decommissioning Plan attached to the Application as Exhibit N, the  
9 Applicant will post a performance bond with the OPSB as the obligee based on the net  
10 costs of decommissioning (taking into account the salvage value of the panels and other  
11 equipment), currently calculated to be \$4,694,666, prior to the commencement of  
12 commercial operation of the Project. As noted above, an updated decommissioning  
13 estimate based on the final Project design will be prepared prior to the financial security  
14 being posted. Following commencement of commercial operation, the Applicant will  
15 reevaluate decommissioning costs through an Ohio-licensed engineering firm or  
16 professional engineer every five years thereafter during the life of the Project. If this  
17 evaluation shows that the net decommissioning cost for the Project has increased, the  
18 Applicant will increase the amount of the performance bond accordingly.

19 **Q.10. Do you believe the decommissioning plan is acceptable?**

20 **A.10.** Yes. In my experience, the plan, as outlined in the Application and Exhibit N, will  
21 ensure appropriate decommissioning of the Project so that the Project Area can be returned  
22 to another use after the end of the Project's useful life. Given the relatively low impact of  
23 a solar farm compared to the impact of other forms of electricity generation,

1           decommissioning of the Project should not be a significant impediment to future uses of  
2           the Project Area, including a potential return to agricultural use.

3   **Q.11. Does this conclude your direct testimony?**

4           **A.11.** Yes, it does.

## **CERTIFICATE OF SERVICE**

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Summary: Testimony Direct Testimony of August Christensen electronically filed by Ms. Anna Sanyal on behalf of Ross County Solar, LLC