

BEFORE THE OHIO POWER SITING BOARD

In the Matter of the Application of Yellowbud Solar, LLC for a Certificate of Environmental Compatibility and Public Need.)))))	Case No. 20-972-EL-BGN
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DIRECT TESTIMONY OF AUGUST CHRISTENSEN

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

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

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

6 **A.2.** In this role, I have overseen the engineering and construction services for many
7 solar projects including the 132 MWac Finley Solar Farm located in New South Wales,
8 Australia, the 100 MWac Southampton Solar Project in Virginia, the 200 MWac Great
9 Valley Solar Project and 200 MWac RE Tranquility LLC Solar Project both located in
10 California, and the 369.5 MWac of the Alamo Solar Portfolio throughout Texas. I have
11 been involved with the planning and design of projects that include drain tile within the
12 project boundary, some of these projects include the 100 MWac Junction Solar Project
13 located in Illinois, the 100 MWac Aurora Solar Project in Minnesota, and multiple
14 community solar projects within Minnesota and Illinois. In addition to these planning and
15 design services, I have also been involved with the preparation of decommissioning
16 estimates for many solar projects including the 128 MWac Wild Springs Solar Project in
17 South Dakota, the 100 MWac Junction Solar Project in Illinois, and the 100 MWac Regal
18 Solar Project and the 100 MWac Elk Creek Solar Project both located in Minnesota.

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

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

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

10 **A.4.** I am testifying on behalf of the Applicant, Yellowbud Solar, LLC (“Applicant”)
11 in support of its Application filed in Case No. 20-972-EL-BGN.

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

13 **A.5.** The purpose of my testimony is to address Condition 15, which concerns drain
14 tile mitigation, in the Joint Stipulation filed on January 6, 2021, which I have reviewed,
15 and to address the Yellowbud Solar Project (“Project”) Drain Tile Mitigation Plan which
16 was attached to the Application as Exhibit E. I will also describe a decommissioning cost
17 estimate my firm undertook on behalf of the Applicant, which is summarized in
18 Appendix A to Exhibit N (Decommissioning Plan), summarize the result of that estimate,
19 and provide my assessment of decommissioning activities with regard to the Project.

20 **Q.6. Pursuant to Condition 15, how will the Project protect and, if necessary, repair drain
21 tile in the Project Area?**

22 **A.6.** As further explained in Exhibit E (Drain Tile Mitigation Plan), the Applicant has
23 worked with Ross and Pickaway County to identify public drain tile systems; the Ross and

1 Pickaway County Soil and Conservation Districts for drain tile data they have on file for
2 private landowners; coordination with a local drain tile installer per landowner
3 recommendations; and regular coordination with participating landowners to obtain copies
4 of available drain tile maps or spatial datasets. Data from this effort was compiled and
5 provided to the Board as Appendix A to the Drain Tile Mitigation Plan, Exhibit E of the
6 Application. The Applicant has committed in the Application that any main drain tiles
7 damaged during construction will be identified, documented, and repaired. Additionally,
8 Joint Stipulation Condition 15 imposes a similar requirement that the Applicant avoid or
9 minimize damage to functioning field tile drainage systems and soils resulting from the
10 construction, operation, and/or maintenance of the Project in agricultural areas and to
11 promptly repair any damaged drain tile systems at the Applicant's expense. All repairs
12 will be completed by a qualified contractor. Further, Condition 15 not only requires the
13 Applicant to promptly repair any damage to drain tile in the Project Area, but also to
14 promptly repair drain tile in the Project Area to protect the field tile system of an adjacent
15 landowner if the adjacent landowner's drain tile system is affected by the drain tile system
16 in the Project Area. Examples of drain tiles that may not be repaired are lateral drain tile
17 lines which function to remove water from existing fields to the main tiles. That function
18 is not necessary for a solar facility as ground water can migrate naturally into the soil. That
19 is why lateral drain tile lines that are damaged and contained within the Project Area may
20 not be repaired (subject to Condition 15) depending on the need to replace the lateral drain
21 tile lines and subject to individual landowner agreements previously negotiated during the
22 leasing process.

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

1 **A.7.** The Applicant included Exhibit N (Decommissioning Plan) as part of its Application.
2 Exhibit N includes details on decommissioning activities, site restoration, cost estimates,
3 and financial assurance. The Applicant will notify Ohio Power Siting Board (“OPSB”)
4 Staff 30 days prior to the commencement of decommissioning activities. In general,
5 decommission activities will involve the removal of all system components such as panels,
6 weather stations, inverters, electrical equipment, racking, scrap, foundation piles, access
7 roads, electrical collection lines, fencing, and the substation. Depending on circumstances
8 and landowner agreements, some components may remain in place, such as electrical
9 collection lines buried at least 48 inches underground, the substation if other agreements
10 necessitate its continued use, and access roads. Equipment removed from the site will be
11 salvaged or recycled to the greatest extent practicable. Otherwise, it will be disposed of
12 via a licensed solid waste disposal facility.

13 Following the completion of decommissioning activities, the site will be converted back to
14 pre-construction land uses. Land will be graded and decompacted to allow for agricultural
15 use. For areas not to be returned to agricultural use, soils will be decompacted and reseeded
16 to establish adequate vegetative cover. Topsoil conditions will be assessed to identify. I
17 estimate that the decommissioning process, including the removal of materials and site
18 restoration, will last approximately 12 to 18 months.

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

20 **A.8.** Westwood created a Decommissioning Report (Appendix A to Exhibit N) to evaluate
21 the cost of full decommissioning and restoration costs net of salvage value, restoration of
22 the project area, and proper disposition of all project components. Per our calculations,
23 based on current recycling costs and salvage values, the net cost of decommissioning the

1 Project is estimated to be approximately \$15,657,443. The Application and Exhibit N
2 indicated that these costs are not expected to change significantly from the preliminary site
3 plan to the final design. However, as we gain a better understanding of decommissioning
4 of solar facilities over time, assess the value of solar equipment early in the Project's life,
5 and continue to monitor best practices for restoration following decommissioning, we are
6 finding that the anticipated costs of decommissioning are decreasing over time. Also, as
7 noted in the Application, the net cost of the estimate may change based on the final Project
8 layout. Thus, given the industry trend on decommissioning costs and to account for any
9 changes in the final Project Layout, the Applicant will prepare an updated estimate based
10 on the final Project design prior to securing financial security.

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

12 **A.9.** Per the Decommissioning Plan attached to the Application as Exhibit N, the Applicant
13 will post a performance bond with the OPSB as the obligee based on the net costs of
14 decommissioning (taking into account the salvage value of the panels and other
15 equipment), currently calculated to be \$15,657,443, prior to the commencement of
16 commercial operation of the Project. As noted above, an updated decommissioning
17 estimate based on the final Project design will be prepared prior to the any financial security
18 being posted. Following commencement of commercial operation, the Applicant will
19 reevaluate decommissioning costs through an Ohio-licensed engineering firm or
20 professional engineer every five years thereafter during the life of the Project. If this
21 evaluation shows that the net decommissioning cost for the Project has increased, the
22 Applicant will increase the amount of the performance bond accordingly.

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

1 **A.10.** Yes. In my experience, the plan, as outlined in the Application and Exhibit N, will
2 ensure appropriate decommissioning of the Project so that the Project Area can be returned
3 to another use after the end of the Project’s useful life. Given the relatively low impact of
4 a solar farm compared to the impact of other forms of electricity generation,
5 decommissioning of the Project should not be a significant impediment to future uses of
6 the Project Area, including a potential return to agricultural use.

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

8 **A.11.** Yes, it does.

CERTIFICATE OF SERVICE

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s/ Anna Sanyal
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Summary: Testimony Direct Testimony of August Christensen electronically filed by Ms. Anna Sanyal on behalf of Yellowbud Solar, LLC