

BEFORE THE OHIO POWER SITING BOARD

In the Matter of the Application of)	
Angelina Solar I, LLC)	
for a Certificate of Environmental)	Case No. 18-1579-EL-BGN
Compatibility and Public Need)	

DIRECT TESTIMONY OF DAVID HESSLER

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

2 **A.1.** My name is David M. Hessler. The address of my company’s administrative offices
3 is 38329 Old Mill Way, Ocean View, Delaware 19970, and my personal office is located
4 at 1012 W. Las Colinas Dr., St. George, Utah 84790.

5 **Q.2. Mr. Hessler, by whom are you employed and in what capacity?**

6 **A.2.** I have been employed for over 28 years by Hessler Associates, Inc., as Vice
7 President and a Principal Consultant. Hessler Associates, Inc. is an engineering consulting
8 firm that specializes in the acoustical design and analysis of power generation and
9 industrial facilities of all kinds, including solar energy projects.

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

11 **A.3.** I received my Bachelor of Science in Mechanical Engineering (B.S.), 1997, *Summa*
12 *cum Laude*, at the A. James Clark School of Engineering, University of Maryland, College
13 Park, Maryland, and a Bachelor of Arts (B.A.), 1982, at the University of Hartford,
14 Hartford, Connecticut. I am a registered Professional Engineer (P.E.) in the
15 Commonwealth of Virginia and I am a member of the Institute of Noise Control
16 Engineering (INCE). My professional specialization is the measurement, analysis, control
17 and prediction of noise from both fossil fueled and renewable power generation facilities.
18 I have been the principal acoustical designer and/or test engineer on hundreds of power

1 station projects all over the world, roughly 70 wind energy projects and, more recently, a
2 number of large-scale solar projects, including several in the State of Ohio.

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

4 **A.4.** I am testifying on behalf of the Applicant, Angelina Solar I, LLC in support of its
5 application filed in Case No. 18-1579-EL-BGN.

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

7 **A.5.** The purpose of my testimony is to describe the noise assessment study included in
8 the Application as Exhibit E and to summarize the results of that study.

9 **Q.6. Please describe the study included in the Application.**

10 **A.6.** Hessler Associates, Inc. carried out a noise impact assessment for the Angelina
11 Solar Project (“Project”) to determine if its sound emissions, primarily from the substation
12 transformer, might have a potentially adverse effect on the surrounding community. The
13 study included a field survey of the existing sound level conditions near the substation site
14 so that projections of future facility sound could be compared to the existing level.
15 Generally speaking, the sound from any project would have to significantly exceed the
16 existing sound level to be perceptible and possibly disturbing. Consequently, the survey
17 was essentially carried out to establish the existing baseline conditions.

18 The proposed substation for the Project is located east of the existing AEP College
19 Corner substation. There is a single home located approximately 400 feet southeast of the
20 proposed substation site, which is the home of the landowner of the property on which the
21 proposed substation will be located. In order to quantitatively evaluate the potential noise
22 impact of the substation, sound monitoring equipment was set up at this home to measure
23 the existing baseline ambient sound level, including its frequency content, for later

1 comparison to the predicted sound levels from the substation. Sound levels were measured
2 continuously day and night over a two-week period in 10-minute increments through a
3 variety of wind and weather conditions.

4 **Q.7. What did the survey results indicate with respect to the sound levels that currently**
5 **exist at the nearest home?**

6 **A.7.** The area is generally quiet with sound levels typically in the 20 to 35 dBA range.
7 Slightly higher, but still relatively low, sound levels occur when the wind picks up.

8 **Q.8. How would the addition of a new transformer in the Project's substation affect this**
9 **situation?**

10 **A.8.** The sound emissions from the substation's transformer were conservatively
11 estimated and projected to the nearest home, which is a participating residence
12 approximately 400 feet from the new substation area, as well as the nearest residence to
13 the west (non-participating and 1,300 feet from the proposed substation) and the nearest
14 residence to the north (non-participating and 1,500 feet from the proposed substation).

15 For the two non-participating residences, these projections show that the sound
16 from the new transformer will be comparable to or below the existing measured sound
17 level, which means in qualitative terms that there will be no, or no significant, change in
18 what is audible at the houses. Consequently, I would not anticipate any adverse noise
19 impact at these nearby residences or at any other potentially sensitive receptors farther
20 away from the proposed substation.

21 The study concluded that the substation may be intermittently audible at the
22 participating receptor 400 feet away from the proposed substation site. There are a number

1 of ways to mitigate any impact on this receptor, and my understanding is that the Applicant
2 will work with this landowner to address any concerns.

3 **Q.9. Are there any other potential noise sources associated with the Project?**

4 **A.9.** There is a minor amount of noise produced by the DC to AC inverters that are
5 intermittently distributed throughout the panel arrays; however, this sound is only
6 perceptible at short distances and it is highly unlikely to be significant or problematic at
7 any residences, which would all generally be hundreds of feet from any given inverter.

8 In addition to operational sound, a certain amount of unavoidable noise will be
9 generated during construction. In contrast to other forms of power generation, sound
10 emissions during construction are expected to be dramatically lower in magnitude and
11 duration. However, some unavoidable disturbance is possible when the mounting posts are
12 driven in but this activity will be fairly short-lived in any particular location. Other sounds
13 from trenching and road building will also be brief in duration and will progress from place
14 to place avoiding prolonged exposure at any specific location. Construction noise in
15 general would be brief in duration and would only occur during the daytime.

16 **Q.10. What are your overall conclusions regarding the potential noise impacts of the**
17 **Project?**

18 **A.10.** In contrast to all other forms of power generation, the sound emissions from
19 photovoltaic projects are almost totally benign and, moreover, have the unique
20 characteristic of only occurring during the day when the possibility of disturbance is much
21 less likely in the first place. Based on the survey of the existing environmental sound levels
22 in the vicinity of the proposed substation and conservative projections of the Project's
23 future sound emissions, I would conclude from this quantitative evidence that any noise

1 from the new transformer will be insignificant at the nearest non-participating residences
2 and beyond. More broadly, I would not expect the operational sound emissions from the
3 Project in general to have any negative impact on the surrounding community.

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

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

CERTIFICATE OF SERVICE

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Summary: Testimony Direct Testimony of David Hessler electronically filed by Mr. MacDonald W Taylor on behalf of Angelina Solar I, LLC