

BEFORE THE OHIO POWER SITING BOARD

- - -

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

- - -

PROCEEDINGS

before Patricia A. Schabo, Administrative Law Judge,  
at the Public Utilities Commission of Ohio, 180 East  
Broad Street, Room 11-A, Columbus, Ohio, called at  
10:09 a.m. on Wednesday, July 31, 2019.

- - -

VOLUME I

- - -

ARMSTRONG & OKEY, INC.  
222 East Town Street, 2nd Floor  
Columbus, Ohio 43215-5201  
(614) 224-9481 - (800) 223-9481

- - -

APPEARANCES:

Vorys, Sater, Seymour & Pease, LLP  
By Mr. Michael J. Settineri  
and Mr. MacDonald W. Taylor  
52 East Gay Street  
Columbus, Ohio 43215

On behalf of Angelina Solar I, LLC.

Dave Yost, Ohio Attorney General  
John H. Jones, Section Chief  
By Ms. Jodi J. Bair  
Senior Assistant Attorney General,  
Public Utilities Section  
30 East Broad Street, 16th Floor  
Columbus, Ohio 43215

On behalf of the Staff of the Ohio Power  
Siting Board.

Van Kley & Walker, LLC  
By Mr. Jack A. Van Kley  
132 Northwoods Boulevard, Suite C-1  
Columbus, Ohio 43235

On behalf of the Concerned Citizens of  
Preble County, LLC.

Ohio Farm Bureau Federation  
By Ms. Amy M. Milam  
280 North High Street, 6th Floor  
Columbus, Ohio 43215

On behalf of the Ohio Farm Bureau  
Federation.

Bricker & Eckler, LLP  
By Mr. Dylan F. Borchers  
100 South Third Street  
Columbus, Ohio 43215

On behalf of the Preble County  
Commissioners.

APPEARANCES: (Continued)

Preble County Prosecutor's Office  
By Mr. Martin Patrick Votel  
Prosecuting Attorney,  
and Ms. Kathryn M. West  
Assistant Prosecuting Attorney  
101 East Main Street  
Eaton, Ohio 45320

On behalf of the Preble County Engineer,  
Preble County Planning Commission, Preble  
County Soil and Water Conservation  
District, the Board of Trustees of Israel  
Township, and the Board of Trustees of  
Dixon Township, and the Preble County  
Commissioners.

- - -

1	INDEX		
2	- - -		
3	WITNESSES		PAGE
4	Douglas Herling		
	Direct Examination by Mr. Settineri		12
5	Voir Dire Examination by Mr. Van Kley		27
	Cross-Examination by Mr. Van Kley		37
6	Redirect Examination by Mr. Settineri		126
	Recross-Examination by Mr. Van Kley		132
7	Noah Waterhouse		
8	Direct Examination by Mr. Settineri		137
	Cross-Examination by Mr. Van Kley		138
9	Redirect Examination by Mr. Settineri		152
	Recross-Examination by Mr. Van Kley		154
10	Further Redirect Examination by Mr. Settineri		156
11	Mark Bonifas		
	Direct Examination by Mr. Taylor		159
12	Cross-Examination by Mr. Van Kley		160
13	- - -		
14	COMPANY EXHIBITS	IDENTIFIED	ADMITTED
15	1 - Application	10	136
16	1C - Confidential pages from the Application (Confidential)	10	136
17	2C - Angelina Solar I, LLC's response to Staff's March 8, 2019 data request (Confidential)	11	136
18			
19			
20	3 - Proof of Service	11	136
21	4 - Proof of Notice of Public Informational Meeting	11	136
22			
23	5 - Proof of Notice of Public Informational Meeting	11	136
24	6 - Direct Testimony of Douglas Herling	12	136
25			

INDEX (Continued)

- - -

COMPANY EXHIBITS IDENTIFIED ADMITTED

7 - Supplemental Direct Testimony of Douglas Herling 12 136

8 - Direct Testimony of Noah Waterhouse 136 157

9 - Supplemental Direct Testimony of Noah Waterhouse 137 157

10 - Direct Testimony of Mark Bonifas 159 169

11 - Supplemental Direct Testimony of Mark Bonifas 159 169

- - -

JOINT EXHIBIT IDENTIFIED ADMITTED

1 - Joint Stipulation and Recommendation 12 136

- - -

1                   Wednesday Morning Session,  
2                   July 31, 2019.

3                   - - -

4                   ALJ SCHABO: The Ohio Power Siting Board  
5 has assigned for hearing, at this time and place,  
6 Case No. 18-1579-EL-BGN, being In the Matter of the  
7 Application of Angelina Solar I, LLC for a  
8 Certificate of Environmental Compatibility and Public  
9 Need.

10                  My name is Patricia Schabo and I'm the  
11 Administrative Law Judge assigned by the Board to  
12 hear this case.

13                  We'll begin by taking appearances,  
14 starting with Angelina.

15                  MR. SETTINERI: Thank you, Your Honor.  
16 On behalf of Angelina Solar I, LLC, Mike Settineri  
17 and MacDonald Taylor with the law firm of Vorys,  
18 Sater, Seymour and Pease, 52 East Gay Street,  
19 Columbus, Ohio 43215.

20                  ALJ SCHABO: Thank you.

21                  Ms. Bair.

22                  MS. BAIR: Thank you, Your Honor. On  
23 behalf of the Staff of the Power Siting Committee --  
24 Power Siting Board, excuse me, Dave Yost, Attorney  
25 General, Jodi Bair, Assistant Attorney General,

1 30 East Broad Street, 16th Floor, Columbus, Ohio  
2 43215.

3 ALJ SCHABO: Thank you.

4 And we'll go to Mr. Van Kley and then  
5 we'll make our way around.

6 MR. VAN KLEY: Thank you, Your Honor.  
7 Jack Van Kley, Van Kley and Walker, 32 Northwoods  
8 Boulevard, Suite C-1, Columbus, Ohio, on behalf of  
9 the Concerned Citizens of Preble County and their  
10 members.

11 MS. MILAM: Good morning, Your Honor.  
12 Amy Milam on behalf of the Ohio Farm Bureau  
13 Federation. 280 North High Street, Columbus, Ohio  
14 43215.

15 MS. WEST: Kathryn West and Prosecutor  
16 Martin P. Votel. I'm Assistant Prosecutor Kathryn M.  
17 West. I'm here on behalf of Dixon Township, Israel  
18 Township, the Preble County Engineer, Preble Soil and  
19 Water District, the Preble County Planning  
20 Commission, as well as co-counsel for Preble County  
21 Commissioners. Our address is 101 East Main Street,  
22 Eaton, Ohio 45320.

23 MR. BORCHERS: Good morning, Your Honor.  
24 On behalf of the Preble County Commissioners, Dylan  
25 Borchers with the law firm of Bricker & Eckler, 100

1 South Third Street, Columbus, Ohio 43215.

2 ALJ SCHABO: Thank you.

3 Before we went on the record, we  
4 discussed some preliminary issues. To the degree  
5 that there are two filed motions to strike, we will  
6 deal with those while the witness is on the stand,  
7 before taking testimony. So I believe we are up to  
8 Mr. Settineri.

9 MR. SETTINERI: Yes, Your Honor. Just  
10 two things for the record we'd just like to note.

11 First, Joint Exhibit 1 that we will be  
12 marking and identifying, which is the Stipulation in  
13 this matter, a map was inadvertently left off of that  
14 document. That map was put on the docket with a  
15 letter as recently as last Friday potentially,  
16 subject to check, but we have gone ahead and attached  
17 that map to the Joint Exhibit and distributed that  
18 exhibit to all the parties today.

19 ALJ SCHABO: Thank you.

20 MR. SETTINERI: As well, there will be a  
21 correction to Mr. Herling's testimony when he  
22 references Exhibit 2 when we call him to the stand.  
23 That exhibit will be changed to Exhibit 2C because it  
24 contains confidential information. That is the same  
25 information that was -- some of the same information



1 that was in the Application and, therefore, we're  
2 going to ask for that to be treated as a confidential  
3 document and not made available to the public.

4 ALJ SCHABO: Okay.

5 MR. SETTINERI: And that's it.

6 ALJ SCHABO: All right. Thank you.

7 MR. SETTINERI: At this time, Your Honor,  
8 we'd like to call our first witness, Mr. Doug Herling  
9 to the stand.

10 ALJ SCHABO: Mr. Settineri, do you have  
11 an extra copy of the Joint Stipulation with the map?

12 MR. SETTINERI: I do.

13 ALJ SCHABO: Sorry. Thank you, sir.

14 Oh, I already had one. Thank you, sir.

15 MR. SETTINERI: You're welcome.

16 ALJ SCHABO: Mr. Herling, if you'd just  
17 raise your right hand for me.

18 (Witness sworn.)

19 ALJ SCHABO: Thank you very much. Go  
20 ahead and have a seat. State your name and your  
21 business address for the record, please.

22 THE WITNESS: My name is Douglas Herling.  
23 1105 Navasota Street, Austin, Texas 78702.

24 ALJ SCHABO: Thank you, sir.

25 MR. SETTINERI: Your Honor, at this time,

1 I would like to mark a number of exhibits.

2 ALJ SCHABO: Okay.

3 MR. SETTINERI: I will slowly go through  
4 them, starting first with Company Exhibit 1 which is  
5 the Application in this proceeding.

6 ALJ SCHABO: So marked.

7 (EXHIBIT MARKED FOR IDENTIFICATION.)

8 MR. SETTINERI: Next, I would like to  
9 mark, as Company Exhibit 1C, a confidential exhibit  
10 which represents the confidential pages of the  
11 Application and that's Company Exhibit 1C.

12 ALJ SCHABO: So marked.

13 (EXHIBIT MARKED FOR IDENTIFICATION.)

14 MR. SETTINERI: Next, as Confidential  
15 Exhibit 2C, I would like to mark a response to a  
16 Staff data request that is also confidential.

17 ALJ SCHABO: What's that dated?

18 MR. SETTINERI: Yes. It's dated March  
19 18, 2019. I'll represent to the Bench it provides  
20 economic modeling information.

21 ALJ SCHABO: We will mark that March 18,  
22 2019 --

23 MR. SETTINERI: That was Company  
24 Exhibit 2C.

25 ALJ SCHABO: -- Company Exhibit 2C.

1 (EXHIBIT MARKED FOR IDENTIFICATION.)

2 ALJ SCHABO: Thank you.

3 MR. SETTINERI: Next is Company  
4 Exhibit 3, proof of service of the Application.

5 ALJ SCHABO: So marked.

6 (EXHIBIT MARKED FOR IDENTIFICATION.)

7 MR. SETTINERI: Next is Company Exhibit 4  
8 which is a series of proof of notices but this  
9 relates to proof of mailings. And for the record  
10 I'll explain to the Bench that Company Exhibit 4 and  
11 5 do contain similar documents. In Mr. Herling's  
12 testimony they are separated, one describing the  
13 mailings that were done and the second describing the  
14 publications in the newspapers that were done; so,  
15 just to avoid confusion, you will see duplicate  
16 documents there but, again, Company Exhibit 4, proof  
17 of mailings.

18 ALJ SCHABO: So marked.

19 (EXHIBIT MARKED FOR IDENTIFICATION.)

20 MR. SETTINERI: Company Exhibit 5 will be  
21 proofs of publication.

22 ALJ SCHABO: So marked.

23 (EXHIBIT MARKED FOR IDENTIFICATION.)

24 MR. SETTINERI: I'd like next to mark, as  
25 Company Exhibit 6, the Direct Testimony of

1 Mr. Herling.

2 ALJ SCHABO: Let me catch up.

3 So marked.

4 (EXHIBIT MARKED FOR IDENTIFICATION.)

5 MR. SETTINERI: Then, as Company  
6 Exhibit 7, we would mark the Supplemental Direct  
7 Testimony of Douglas Herling.

8 ALJ SCHABO: So marked.

9 (EXHIBIT MARKED FOR IDENTIFICATION.)

10 MR. SETTINERI: Last, but not least, we  
11 would mark, as Joint Exhibit 1, the Joint Stipulation  
12 and Recommendation in this matter, but also it  
13 includes the map that was inadvertently left off as  
14 the last page.

15 ALJ SCHABO: So marked.

16 (EXHIBIT MARKED FOR IDENTIFICATION.)

17 MR. SETTINERI: Thank you, Your Honor.

18 - - -

19 DOUGLAS HERLING

20 being first duly sworn, as prescribed by law, was  
21 examined and testified as follows:

22 DIRECT EXAMINATION

23 By Mr. Settineri:

24 Q. Mr. Herling, good morning.

25 A. Good morning.

1           Q.    Do you have before you the exhibits that  
2 have just been marked?

3           A.    Yes, I do.

4           Q.    Okay. I'd like to walk through and  
5 identify those for the record. Can you identify  
6 Company Exhibit 1, please, for the record?

7           A.    Company Exhibit 1 is the Application to  
8 the Ohio Power Siting Board for the Angelina Solar  
9 Project.

10          Q.    And was that prepared by you or at your  
11 direction?

12          A.    Yes, it was.

13          Q.    And can you identify Company Exhibit 1C  
14 for the record, please?

15          A.    Exhibit 1C are confidential pages of the  
16 Application.

17          Q.    Okay. And can you please identify  
18 Company Exhibit 2C for the Application -- for the  
19 record, please?

20          A.    Company Exhibit 2C is confidential  
21 information that was part of a data request.

22          Q.    Okay. And was that response prepared by  
23 you or at your direction?

24          A.    Yes, it was.

25          Q.    Okay. Can you identify Company

1 Exhibit 3, please, for the record?

2 A. Exhibit 3 is the proof of service of the  
3 Application.

4 Q. Okay. And can you please identify  
5 Company Exhibit 4 for the record, please?

6 A. Exhibit 4 is the proof of notice of  
7 mailing.

8 Q. And can you please identify, for the  
9 record, Company Exhibit 5, please?

10 A. Exhibit 5 is the proof of notice of  
11 publication.

12 Q. And could you please identify what's been  
13 marked as Company Exhibit 6 for the record, please?

14 A. Exhibit 6 is my Direct Testimony in this  
15 case.

16 Q. Okay. And was that prepared by you or at  
17 your direction?

18 A. Yes, it was.

19 Q. And could you identify Company Exhibit 7,  
20 please, for the record?

21 A. Exhibit 7 is my Supplemental Direct  
22 Testimony in this case.

23 Q. And was that prepared by you or at your  
24 direction?

25 A. Yes, it was.

1 Q. And then if you could also, please,  
2 identify Joint Exhibit 1 for the record, please.

3 A. Joint Exhibit 1 is the Joint Stipulation  
4 and Recommendation.

5 Q. And does that exhibit also include an  
6 attachment labeled "Document A"?

7 A. Yes, it does.

8 Q. And is that the Document A that was  
9 referenced in the Stipulation itself?

10 A. Yes, it is.

11 Q. Thank you.

12 Turning to Company Exhibits 6 and 7,  
13 which is your testimony in this proceeding, do you  
14 have any corrections or revisions to that testimony  
15 at this time?

16 A. Yes, I have some minor corrections and  
17 revisions.

18 Q. If you could please slowly walk us  
19 through those, it would be appreciated.

20 A. On page 5 -- we'll start with Exhibit 6.  
21 On page 5, line 9, we're changing "Company Exhibit 2"  
22 to "Company Exhibit 2C".

23 On page 12, Answer 20, beginning at  
24 line 19 with the words "I note" we will be striking  
25 from "I note" through the end of that paragraph on

page 13, line 2, ending with "permit of the Project."

Also on page 13, Answer 22, line 9, after "height" and before the comma we are inserting "topped with barbed wire."

ALJ SCHABO: I'm sorry, repeat that one for me.

THE WITNESS: Surely. Line 9 on page 13 reads: "The Project will be protected by a perimeter fence at least six feet in height,...." After the word "height" we are inserting "topped with barbed wire."

ALJ SCHABO: Thank you.

Q. Mr. Herling, just for the record, after that insert "topped with barbed wire," the remainder of the sentence remains as is; is that correct?

A. Yes, that's correct.

On page 14, line 14, we're replacing the word "New" with "Net". So it should read "increases the Net Decommissioning Cost,...."

On page 16, Answer 28, line 12, we are replacing "'Toxic Leaching Characteristic Procedure'" with "'Toxicity Characteristic Leaching Procedure.'" Those are all the corrections I have for Exhibit 6.

Moving on to Exhibit 7. At the bottom of page 1, line 15, after the words "Joint Stipulation"



1 we are going to insert ", including the attachment  
2 identified as Document A, filed with the Board  
3 July 26, 2019,....." The rest of that sentence  
4 remains the same

5 ALJ SCHABO: Would you repeat that again?  
6 "Including the"?

7 THE WITNESS: It should read "The Joint  
8 Stipulation, including the attachment identified as  
9 Document A, filed with the Board July 26, 2019," and  
10 then it would continue "has been marked as Joint  
11 Exhibit 1."

12 ALJ SCHABO: Wonderful. Thank you.

13 THE WITNESS: That concludes my  
14 corrections.

15 ALJ SCHABO: Thank you.

16 Q. (By Mr. Settineri) All right.  
17 Mr. Herling, if I was to ask you the questions in  
18 Company Exhibit 6 as well as Exhibit 7 today, would  
19 your answers be the same, subject to the revisions  
20 that you made today?

21 A. Yes, they would.

22 MR. SETTINERI: Thank you.

23 Your Honor, at this time, the witness is  
24 available for cross-examination.

25 ALJ SCHABO: Okay. Let's begin with

1 Mr. Van Kley's motion to strike portions of that  
2 testimony.

3 MR. SETTINERI: Your Honor, would you  
4 like me to respond to that motion at this time?

5 ALJ SCHABO: Yes, but I'll let  
6 Mr. Van Kley tee it up as he sees fit and then we'll  
7 definitely give you a chance to respond.

8 MR. VAN KLEY: All right. Your Honor,  
9 I'll just work through first the testimony of  
10 Mr. Herling, the Direct Testimony, Exhibit 6, from  
11 beginning to the end in that sequence. I'm going to  
12 be reading from the testimony itself, rather than  
13 from my motion, so if I miss anything I'm sure you'll  
14 notice and you'll let me know.

15 ALJ SCHABO: I'll do my best.

16 MR. VAN KLEY: The first thing that I  
17 have, I believe, is in Answer 14, where we have an  
18 answer concerning the economic benefit of the  
19 Project. We've noted in our motion that Mr. Herling  
20 did not prepare the study that is the basis for the  
21 information in this answer. That study has been  
22 marked as Appendix C in the Application which is  
23 Company Exhibit 1.

24 We've also moved to strike that exhibit  
25 on the grounds that there is no witness testifying in

1 this proceeding that has the expertise or the  
2 background necessary to testify about the information  
3 in that exhibit.

4 That exhibit was prepared by UC -- the UC  
5 Economic Commission, I think they were called or  
6 something along those lines. Those folks are not  
7 testifying. Those folks did all the calculations  
8 that resulted in the data that is included in  
9 Answer 14 and that is included in Appendix C and,  
10 therefore, we believe that both Answer 14 and  
11 Appendix C should be struck.

12 ALJ SCHABO: Mr. Settineri.

13 MR. SETTINERI: Yeah, Your Honor. If  
14 you'll bear with me, I will first start with the law.

15 Mr. Van Kley will remember the Buckeye  
16 Wind case, Case No. 08-666. Board Opinion and Order,  
17 March 22nd, 2010. The same arguments were made in  
18 that case regarding the Applicant sponsor. Arguments  
19 were made to try to attempt to strike exhibits in  
20 that proceeding to which the sponsor was testifying  
21 to, as well as questioning the witness's  
22 qualifications.

23 Both the Administrative Law Judge in that  
24 proceeding, as well as the Board, found no basis for  
25 those arguments and, as the Board noted in that

1 decision on page 12, "The Board notes that it is a  
2 long-standing practice in Board proceedings for an  
3 applicant to sponsor exhibits to an application  
4 through the testimony of a witness that is an officer  
5 or experienced employee of the applicant."

6 So we already have case law on point that  
7 it is a longstanding Board practice as well as the  
8 practice of the PUCO for applications to have  
9 sponsors to sponsor that application, as well as  
10 supplement parts of the application with testimony of  
11 witnesses, which we have done here.

12 Regarding Mr. Herling's experience, if  
13 you look at his testimony, I'm going to just slowly  
14 walk through some things here.

15 Answer 2 of his testimony, page 1: "I am  
16 responsible for the development of a number of solar  
17 energy projects being developed by Open Road." He  
18 also testifies his responsibilities "include, but are  
19 not limited to, identifying prospective projects with  
20 suitable solar resources and electric transmission  
21 access; acquiring land rights; establishing and  
22 developing relationships with elected officials,  
23 regulators, and community opinion leaders to support  
24 project development; developing and managing project  
25 budgets; managing environmental studies and

1 permitting processes; managing third party  
2 consultants; and supporting financial analysis and  
3 modeling of project economics."

4 As well, he has a Bachelor's degree in  
5 Geology from the university -- from Colgate  
6 University. But as to this specific part of the  
7 motion, he also has an MBA from the University of  
8 Texas. He's worked in the financial and energy  
9 industry. He's worked on a number of wind and solar  
10 projects so he certainly has experience in the  
11 industry.

12 And last but not least, Answer 9, the  
13 question was, at Question 9, were you involved in the  
14 preparation -- I'm paraphrasing -- of the Application  
15 and Exhibits.

16 He says in his answer: "Yes, I was  
17 directly involved. The Application" -- I'm  
18 paraphrasing -- "as well as all of the responses to  
19 the Staff data requests...are true and accurate and  
20 were prepared under my direction."

21 So certainly he has experience, he is the  
22 sponsor of the Application, we have case law on  
23 point, and when you look at the specific part of this  
24 motion that they're seeking to strike in the  
25 testimony it is simply stating what's in the

1 Application, but regardless of whether it's in the  
2 Application or not, he certainly has the experience  
3 so, as to this part of the motion, it certainly  
4 should be denied if not withdrawn.

5 ALJ SCHABO: Mr. Van Kley, do you have  
6 anything further?

7 MR. VAN KLEY: Yeah, just a couple  
8 things, Your Honor.

9 First of all, Mr. Herling is not an  
10 economist, his testimony doesn't say he's an  
11 economist, and it takes an economics background and  
12 training in order to render the opinions that are  
13 contained in Answer 14.

14 Secondly, Mr. Herling did not do the  
15 calculations for the job numbers and the dollar  
16 numbers that are put into Answer 14 and so he has no  
17 basis upon which to testify that those numbers are at  
18 all accurate.

19 With respect to simply sponsoring the  
20 Exhibit C and answering Question 14 in order to say  
21 what's simply in the Application, if that's all he's  
22 doing then there's little meaning for his answer  
23 because simply saying it's in the Application doesn't  
24 make it true and it doesn't mean that the Board  
25 should consider the information that's included

1       therein.

2                   ALJ SCHABO: I'm going to deny the motion  
3 to strike the testimony. I'm also going to deny the  
4 motion to strike the appendix.

5                   The next section of your motion.

6                   MR. VAN KLEY: The next part would be on  
7 page 8, lines 6 to 8, where Mr Hessler -- Mr. Herling  
8 issues an expert opinion that there will be minimal  
9 sound from the operation of the Project and that it  
10 will essentially be inaudible for all  
11 nonparticipating residences due to the near-silent  
12 operating nature of solar arrays and by locating  
13 inverters sufficiently far from neighboring  
14 residences.

15                   This is obviously an expert opinion in  
16 acoustics. Mr. Herling is not an acoustics engineer.  
17 The Applicant has an expert in acoustics who is going  
18 to testify later as to what that expert believes the  
19 noise impacts from the facility are going to be, so  
20 it's unnecessary for Mr. Herling to express an expert  
21 opinion in that regard, and because his testimony in  
22 this regard is -- is not founded in any expertise  
23 that he has, that expert opinion on page 8 should be  
24 struck.

25                   ALJ SCHABO: Mr. Settineri.

1 MR. SETTINERI: Yes, Your Honor.

2 If we're going to make a claim that he  
3 has no expertise, there should have been voir dire  
4 done to establish that. There's no questioning  
5 regarding his expertise as to whether he's qualified  
6 to testify on this.

7 If you look at his testimony though, he  
8 has been in the industry, he works in the solar  
9 industry, he develops projects, he actually has  
10 testified to the Board on sound from inverters in  
11 projects in the Alamo proceeding, so the Board has  
12 accepted testimony from Mr. Herling, he has testified  
13 before the Board.

14 And again this is -- if you look at the  
15 actual sentence that's sought to be struck, it's a  
16 statement that the sound "will be essentially  
17 inaudible...and by locating inverters sufficiently  
18 far from neighboring residences." So it applies to  
19 the design, I believe, and it also applies to his  
20 personal experience in the industry and being around  
21 solar projects, so certainly he is qualified to give  
22 an opinion.

23 This is not what I would say is an  
24 opinion of an expert acoustics engineer, but it  
25 certainly is an opinion that a person, who is



1 experienced in the industry, who has developed  
2 projects, worked with projects, worked with  
3 manufacturers, certainly is capable of making this  
4 statement.

5 ALJ SCHABO: Mr. Van Kley.

6 MR. VAN KLEY: Yes, Your Honor.

7 If the Applicant is going to claim that  
8 Mr. Herling has any expertise in acoustics, then that  
9 foundation should have been established in the  
10 testimony as written and it does not do that.

11 There's nothing in the testimony at all  
12 that provides any information or any background for  
13 Mr. Herling with respect to defending his expertise  
14 to issue an expert opinion regarding the sound that  
15 will come from a residence.

16 There's nothing in the testimony that  
17 indicates that he has any training in that regard,  
18 there's nothing in his opinion or in his testimony  
19 that indicates that he has ever done any measurements  
20 of sound to measure the sound from solar facilities  
21 and, therefore, he has absolutely no expertise  
22 necessary to render this expert opinion.

23 ALJ SCHABO: I'm going to deny the  
24 motion. I believe his years in the industry and  
25 involvement in these projects gives him sufficient

1 basis to make the statement. You can delve into the  
2 weight and credibility, that you want the Board to  
3 give his testimony, on cross-examination.

4 Next section.

5 MR. VAN KLEY: I believe the next motion  
6 to strike would regard Answer 27. This deals with  
7 the Project's impact on telephone, radio, and other  
8 signals or electronic devices, and I'd like to ask a  
9 few questions, Your Honor, on voir dire of the  
10 witness, in order to establish whether he has the  
11 expertise to answer this question.

12 ALJ SCHABO: All right.

13 MR. SETTINERI: Your Honor, if I may,  
14 instead of spending time on voir dire, I would simply  
15 suggest he can simply cross the witness and, again,  
16 the record will be what the record is and the Board  
17 can evaluate the witness's experience.

18 ALJ SCHABO: Well, quite honestly, if  
19 we're going to get into voir diring Ms. Vonderhaar,  
20 we're going to let Mr. Van Kley voir dire  
21 Mr. Herling, so.

22 MR. VAN KLEY: Okay.

23 MR. SETTINERI: I would ask then that any  
24 voir dire be done, rather than piecemeal it as we go  
25 through this motion, voir dire should have been done

-- I'll make a note for the record -- it should have been done prior to the motion to strike and -- but I would ask that any voir dire to support this motion be done completely now, and also that voir dire doesn't retread any parts of the motion that have been denied.

ALJ SCHABO: Okay.

MR. SETTINERI: Thank you, Your Honor.

ALJ SCHABO: Do you need a moment to get --

MR. VAN KLEY: No, I'm ready to go.

ALJ SCHABO: Okay.

- - -

# VOIR DIRE EXAMINATION

By Mr. Van Kley:

Q. All right. Mr. Herling, I'm going to ask you a few questions about your background related to the information you've included in your answer to Question 27 of your Direct Testimony. Have you personally conducted any measurements of electromagnetic fields from solar facilities?

A. From solar fields?

Q. Yes.

A. No.

Q. Have you ever conducted any measurements

1 of EMFs from electrical appliances or wiring found in  
2 homes or buildings?

3 A. Only in regard to my geology background  
4 and the frequent testing we would do on minerals, et  
5 cetera, as part of our studies, but more using  
6 appliances than necessarily measuring them.

7 Q. Okay. I don't think I understood your  
8 answer. What exactly were you measuring?

9 A. We used electromagnetic fields to measure  
10 the properties of different kinds of materials.

11 Q. Oh. So you were using devices that had  
12 their own EMFs in order to measure something related  
13 to your geology experience.

14 A. That's correct.

15 MR. SETTINERI: I'm just going to object.  
16 Mischaracterizes his testimony.

17 MR. VAN KLEY: Well, he just said it was  
18 correct.

19 Q. Were you involved at all in the study of  
20 solar arrays in the Massachusetts study, that  
21 reported electrical fields along solar facilities,  
22 that is mentioned in your testimony?

23 A. Could you repeat the beginning of your  
24 question?

25 Q. Yeah. I'm looking at the last sentence

1 of your Answer 27 where you refer to a Massachusetts  
2 study. Were you involved in that study?

3 A. I was not a participant in that study,  
4 no.

5 Q. On how many occasions did you use  
6 appliances in order -- EMF-producing appliances in  
7 order to measure things in your geology studies?

8 A. Weekly; several times a month.

9 Q. What was the purpose of those  
10 measurements?

11 A. You control a field to understand  
12 different properties of a kind of mineral or  
13 composite.

14 Q. So you were studying the characteristics  
15 of the minerals?

16 A. Yes.

17 Q. Okay. You weren't studying the EMFs from  
18 the appliances themselves that were used to study the  
19 minerals.

20 A. It's the interaction of the field and the  
21 mineral, yes.

22 Q. When you say that the Solar Project will  
23 generate only weak EMFs, what information are you  
24 basing that opinion on?

25 MR. SETTINERI: Your Honor, I object. At

1 this time, I think we've moved beyond voir dire of  
2 his qualifications and into cross-examination of the  
3 testimony.

4 ALJ SCHABO: I agree with that. I'll  
5 sustain that.

6 MR. VAN KLEY: Okay. All right.

7 Q. (By Mr. Van Kley) Let's move on to your  
8 Answer 28. Mr. Herling, are you an environmental  
9 engineer?

10 A. I am not.

11 Q. Have you ever taken any samples of any  
12 metals or other materials for analysis using the TCLP  
13 procedure?

14 A. I've certainly taken a lot of samples and  
15 soil testing, but I've never as part of the TCLP.

16 Q. TCLP is the acronym for "Toxicity  
17 Characteristic Leaching Procedure," right?

18 A. Correct.

19 Q. Okay. Have you ever performed any  
20 laboratory analyses using the TCLP procedure?

21 A. No, I have not.

22 MR. VAN KLEY: Your Honor, I think that  
23 concludes my voir dire. We would renew our request  
24 that Answer 27 be struck. It's obvious that this  
25 witness does not have any experience with regard to

1 the EMFs from solar facilities. He's never made any  
2 measurements of solar facilities in order to  
3 establish what those EMFs are from solar facilities  
4 and, therefore, he doesn't have any personal  
5 experience that would provide him with the expertise  
6 necessary to render that opinion.

7 With respect to Answer 28, it's obvious  
8 that he doesn't have any experience or expertise with  
9 regard to his expert opinion that solar panels pass  
10 the TCLP procedure.

11 ALJ SCHABO: Mr. Settineri.

12 MR. SETTINERI: Yes. Thank you, Your  
13 Honor.

14 As Concerned Citizens and their counsel  
15 note, Mr. Herling has provided detailed testimony to  
16 the Board previously on EMF, as well as detailed  
17 testimony on the makeup and issues and concerns  
18 related to breakage of solar panels. They are aware  
19 of that but, yet, the motion persists.

20 Regarding his experience. In the voir  
21 dire that just occurred it's clear that Mr. Herling  
22 understands EMF. He has dealt with EMF in his  
23 studies as a geologist as well as we note in his  
24 testimony his significant experience in the industry.  
25 So certainly, those two coupled, give him the ability

1 to provide the answer he's giving in Answer 27, as  
2 well as it gives him the ability to review the study  
3 he referenced and understand it. So he certainly has  
4 a level of experience more than sufficient to provide  
5 this testimony. And again, I note this same  
6 testimony was submitted to the Board previously  
7 without objection by the Concerned Citizens.

8 Likewise as to the damage -- the  
9 statement that they're trying to strike at lines 15  
10 to 17 about the statement that says "In addition,  
11 even if damaged by breakage or fire, solar panels are  
12 manufactured and constructed to be exceedingly  
13 unlikely to release any material to the environment  
14 necessitating soil or water remediation."

15 We also heard, as a geologist, he's  
16 worked with soil and materials but, more importantly,  
17 this statement is clearly related to someone  
18 testifying about their knowledge about solar panels  
19 as someone heavily involved in the industry, I would  
20 very much assume, and it shows in his experience that  
21 he's familiar with what panels are made of and the  
22 concerns that come out of those, so I -- the motion  
23 should be denied not withdrawn.

24 ALJ SCHABO: Last word, Mr. Van Kley.

25 MR. VAN KLEY: Yeah. With regard to



1 Mr. Settineri's representations about what has  
2 happened in other proceedings concerning  
3 Mr. Herling's testimony, this is a separate case,  
4 each case is heard on its own merits rather than  
5 determined on some hearsay about what happened in  
6 another hearing and, therefore, the Board should  
7 determine, on its own merits, whether this testimony  
8 should stand or not.

9 It's obvious that Mr. Herling doesn't  
10 have the expertise necessary to render expert  
11 opinions about EMFs or about the disposition or a  
12 lack of tendency of a solar panel to release toxic  
13 metals. He doesn't have any experience with the TCLP  
14 procedure, he doesn't know anything about the TCLP  
15 characteristics of solar panels and, therefore, his  
16 testimony in both Answer 27 and Answer 28 should be  
17 struck.

18 MR. SETTINERI: Your Honor, I would just  
19 note that the motion to strike on this has nothing to  
20 do with TCLP. The motion is line 15, if I have that  
21 right, page 15, line 15.

22 ALJ SCHABO: You've lost me,  
23 Mr. Settineri.

24 MR. SETTINERI: If you give me a moment,  
25 Your Honor, I'm just trying to understand this motion

1 a little more.

2 Your Honor, I guess I'd like to read -- I  
3 think there was a typo in the motion, but my read is  
4 that -- I'm just trying to understand what part of  
5 the testimony he's trying to strike in Answer 28. My  
6 understanding it was lines 15 to 17.

7 ALJ SCHABO: Mr. Van Kley, are you moving  
8 to strike the entirety of Answer 28 or was there a  
9 section specific?

10 MR. VAN KLEY: No, Your Honor, I would --  
11 I would move that all of Answer 28 be struck, and if  
12 the -- if the motion inadvertently didn't include all  
13 the lines of that answer, then I would amend that  
14 motion here.

15 MR. SETTINERI: Then, Your Honor, my  
16 response again, this whole answer goes to knowledge  
17 that he gained in the industry as well as his  
18 experience. I'd also note the answer contains his  
19 personal awareness of solar panels and records he  
20 looked at. So not only is the motion to strike on  
21 this point overreaching, but certainly his experience  
22 that he has in the industry provides him with more  
23 than a sufficient basis to give the answer that he's  
24 giving here.

25 ALJ SCHABO: I'm going to deny the motion

1 to strike. Mr. Herling is the sponsor of the  
2 Application and was responsible for the development  
3 of the Project, and the expert testimony he's giving  
4 is specific to the Project. Given his experience in  
5 the industry and his experience managing this  
6 Project, I think he has the sufficient expertise to  
7 provide the specific answers in this specific  
8 proceeding.

9 Again, to the degree you would like to  
10 delve into weight and credibility that you would  
11 like, given this testimony, that is grounds for  
12 cross.

13 I'd like to pull you back before we go to  
14 his Supplemental Direct Testimony. In your original  
15 motion you had moved to strike the last sentence of  
16 Answer 26. You skipped over that in your oral  
17 presentation today. I don't know if that was  
18 intentional or an oversight.

19 MR. VAN KLEY: Yeah, I think it's just an  
20 oversight, Your Honor. Here again, Mr. Herling is  
21 issuing his own opinion about the impacts of traffic  
22 and noise from construction, and he has no expertise  
23 to issue those opinions.

24 ALJ SCHABO: Mr. Settineri, do you care  
25 to respond?

1 MR. SETTINERI: No, Your Honor, I don't,  
2 other than this: I think that should be quickly  
3 denied.

4 ALJ SCHABO: I'll deny that on the same  
5 basis that I denied the motion to strike the  
6 testimony about noise impacts.

7 Proceeding to Supplemental Direct or were  
8 there more portions of his Direct?

9 MR. VAN KLEY: I don't think there was  
10 anything in the Supplemental that we wanted to  
11 strike, Your Honor, unless you see something in my  
12 motion that I'm just glossing over here.

13 MR. SETTINERI: Mr. Van Kley, at the  
14 bottom of page 2, you had sought to strike some  
15 testimony in the Supplemental Direct Testimony. I'm  
16 not helping you, but to the extent you wish to  
17 withdraw, feel free.

18 ALJ SCHABO: Well, I like a nice clean  
19 record, so you had moved to strike several sentences.

20 MR. VAN KLEY: I think we'll withdraw  
21 that part of the motion to strike, Your Honor.

22 ALJ SCHABO: All right. Thank you. That  
23 part of your motion will be withdrawn.

24 I believe that takes care of our motions  
25 to strike?

1 MR. VAN KLEY: Yes.

2 ALJ SCHABO: Well, then the witness is  
3 yours on cross.

4 MR. VAN KLEY: All right.

5 - - -

6 CROSS-EXAMINATION

7 By Mr. Van Kley:

8 Q. Mr. Herling, why don't you take out your  
9 Direct Testimony which has been marked as Exhibit 6,  
10 and I'm going to ask you a series of questions about  
11 that testimony. We'll just start from the beginning  
12 and work our way through the testimony.

13 So why don't we start with your answer to  
14 Question No. 2, where you talk about your duties as  
15 Director of Business Development, and in your answer  
16 you discuss your interactions with elected officials,  
17 regulators, and community opinion leaders with  
18 respect to the Angelina Project, so let me ask you a  
19 few questions about your interactions with those  
20 people.

21 First of all, with regard to your  
22 interactions with elected officials about the  
23 Angelina Project, please tell me what elected  
24 officials you had those communications with and at  
25 what times and what you discussed.

1           A.     Sure.

2                     Beginning in early 2017, we had a meeting  
3 with the Director of Economic Development or the  
4 Economic Development Office, I can't remember if it  
5 was Brenda Latanza and some of her staff there. I  
6 don't know the exact month, but I believe that was  
7 March of 2017.

8                     Later in 2017, I believe October of 2017,  
9 we had a -- I had interactions with the -- with Brad  
10 Kramer who handles some of the land -- some of the  
11 planning aspects of the county with regard to zoning  
12 and subdivision regulations.

13                    Following that interaction, I spoke with  
14 the Commissioners, at an open meeting in early  
15 October, regarding a solar ordinance that was  
16 proposed that they were planning -- that had been  
17 drafted and planning to pass that we had opinions and  
18 input on. I believe that covers most of it for that  
19 year.

20                    In 2018, occasional interactions, either  
21 in the hallway or at Commissioner meetings, with the  
22 Commissioners.

23                    I had a one-off lunch with Rodney Creech,  
24 who had questions and concerns about the Project and  
25 wanted to express some concerns that people had

1     voiced to him. There may have been some e-mails as  
2     well. I can't put the specific dates on that.

3             Also throughout 2018, again outreach to  
4     the townships, the various townships involved in the  
5     Project, which would be Israel and Dixon, where we  
6     sent information to those townships in the form of  
7     presentations that showed -- that explained about  
8     solar, about the Project, economic benefits, and how  
9     they can express any concerns to us and become  
10    involved in the process.

11            Additionally, I believe later -- later in  
12    2018, we had our first -- we had some public meetings  
13    with more interactions with elected officials,  
14    primarily the Commissioners.

15            Later in 2018, we also began working with  
16    the Auditor's Office a bit more, where we had some  
17    meetings there to discuss the PILOT and to confirm  
18    some of our questions about the County's parcel data  
19    where we had concerns about where certain lot lines  
20    were. And that -- that might not be all the  
21    conversations, but that's pretty representative of  
22    the ones we had.

23            Q. Did you have some discussions with  
24    elected officials about any proposed ordinances or  
25    regulations of solar facilities in that county?

1           A.    Yes.  At that -- at that meeting I  
2 described in third quarter of 2017, we expressed our  
3 opinions about the proposed solar ordinance that  
4 would affect projects under 50 megawatts in size.

5           Q.    What was the first outreach to the public  
6 in this case that was performed by your Company which  
7 was required by the Board?

8           A.    Let me confirm some of the dates in here.

9           Q.    Yeah, sure.

10          A.    I believe our first outreach to the  
11 public was through First Class Mail, October 23,  
12 2018.  And then published, I believe, August --  
13 October 27, 2018, in the Eaton Register-Herald.

14          Q.    And to whom was that mailing sent?

15          A.    The mailing was sent to all adjacent  
16 landowners to the Project Area for the Angelina Solar  
17 Project.

18          Q.    Prior to that time had your Company had  
19 any communications with the adjacent landowners  
20 around the Project Area?

21          A.    We had had communications with some.  We  
22 had sent outreach letters to gauge interest in  
23 participating in the Solar Project at various points  
24 in 2016, 2017, and 2018.  That certainly wouldn't  
25 have included the full list of people adjacent to the



1 Project, but we definitely spoke with some of them.

2 Q. So those letters did not include all of  
3 the adjacent landowners?

4 A. No, they did not.

5 Q. Are you familiar with the list of  
6 citizens who are intervenors in this case?

7 A. I am, yes.

8 Q. Were any of those letters sent to any of  
9 those intervenors?

10 A. To the intervenors that would have been  
11 adjacent to the Project, yes, to the extent that  
12 addresses were available and up-to-date.

13 Q. But not to all of them?

14 A. Not to all the intervenors?

15 Q. Yes.

16 A. If people weren't directly adjacent to  
17 the Project, they would not have received a letter.

18 Q. So did you send a letter to all  
19 landowners who owned property directly adjacent to  
20 the Project Area?

21 A. Yes.

22 Q. Other than those letters that you've  
23 sent, did you do any other or did Angelina do any  
24 other outreach to any of the adjacent landowners in  
25 order to inform them about the design of the Project

1 that was being anticipated?

2 A. Through the Power Siting Board process  
3 and subsequent to that we had a number of  
4 informational meetings, as required by the statute,  
5 and then several -- several additional meetings at  
6 the County -- at the Preble County Courthouse during  
7 Commissioner sessions to address concerns as well and  
8 to provide information about the Project.

9 Q. Well, before October 23, 2018, when you  
10 first sent that direct mailing to adjacent  
11 landowners, did you have -- did Angelina have any  
12 communications with adjacent landowners to inform  
13 them about the design of the Project, other than  
14 sending that one set of letters to adjacent  
15 landowners to gauge their interest in participating  
16 in the Project?

17 A. We did not, unless people were previously  
18 talking with us when the Project was in its earliest  
19 stages. There were certainly some folks, who may  
20 even be part of the Concerned Citizens, that we did  
21 speak with about the Project and the area it would be  
22 in but, otherwise, no.

23 Q. Your Answer to Question 2 also says that  
24 you had communications with regulators concerning the  
25 Project. With which regulators did you have those

1 communications?

2 MR. SETTINERI: I'll just object. It  
3 mischaracterizes the testimony. The answer in 2,  
4 unless I'm missing it, does state "My  
5 responsibilities include," and I'll skip a few words,  
6 "establishing and developing relationships...." So I  
7 just want to make sure the record is clear that we're  
8 characterizing the testimony correctly.

9 MR. VAN KLEY: I don't know how you  
10 establish a relationship without communication, but  
11 let's just rephrase the question to make sure there's  
12 no question about that.

13 Q. Your answer says that you -- all right.

14 It said that your responsibilities  
15 include establishing and developing relationships  
16 with regulators. Did you do that in this case?

17 A. In this case we did have an early meeting  
18 with Staff, the Power Siting Board Staff, just to  
19 make them aware of the Project early on in its  
20 development.

21 Q. And when did you have that meeting?

22 A. I can't be sure. I think it was in early  
23 2018.

24 Q. Did you have any other communications  
25 with regulators concerning this Project?

1           A.    Not -- before submittal, not that I'm  
2   aware of.

3           Q.    It also says that your responsibilities  
4   include establishing and developing relationships  
5   with community opinion leaders to support project  
6   development. Did you do that in this case?

7           A.    I certainly sent a good amount of  
8   outreach, but in this case specifically, apart from  
9   folks we ended up working with on the Project, no,  
10   there's no additional relationship development there.

11          Q.    When you say these are the folks that  
12   you're working with on this Project, are you  
13   referring to the landowners who are leasing ground to  
14   the Project?

15          A.    Correct.

16          Q.    Let's move on to your answer to  
17   Question 3. Here you talk about your experience with  
18   some solar projects. With how many solar projects  
19   have you had any personal experience in operating the  
20   projects once they're constructed?

21          A.    I do not have direct experience in  
22   operating a project once they're constructed. I  
23   think, institutionally, some members of our company  
24   have been more involved in that capacity, but I have  
25   not personally.

1           Q.    Let's go to your answer to Question 8 on  
2   page 4.  I'd like to refer you to the portion of your  
3   answer that starts on line 17 and goes through  
4   line 22 and there you state that solar panels can  
5   have "one of several alternative chemistries (such as  
6   cadmium telluride or copper indium gallium  
7   selenide)."  Do you see that?

8           A.    Yes, I do.

9           Q.    Now, let me ask you a little bit more  
10  detail about the contents of the solar panels that  
11  may be installed in this Project if you obtain  
12  approval for the Project.  Do these panels include  
13  cadmium as one of the constituents in manufacturing  
14  them?

15          A.    Sorry, which panels in particular?

16          Q.    Any of the panels you might consider for  
17  this Project.

18          A.    There are panels manufactured here in  
19  Ohio that we would consider for this Project that do  
20  use cadmium telluride which is much different from  
21  cadmium in their construction.  It's applied as a  
22  conductive material as a fine substrate in the panel  
23  itself.

24          Q.    Well, cadmium telluride contains  
25  cadmium; isn't that correct?

1           A.    It contains cadmium, but cadmium  
2 telluride is a much different -- is a much different  
3 compound than cadmium on its own. It has about three  
4 times the melting point and is non-water soluble or  
5 available.

6           Q.    Do the solar panels, that might be  
7 considered for this Project, contain antimony?

8           A.    Not -- not that I'm aware.

9           Q.    How about selenium?

10          A.    Again, not that I'm aware.

11          Q.    How about lead?

12          A.    Some panels can contain lead. Solder is  
13 typically lead-free now, but sometimes some solder  
14 can contain lead. In crystalline panels, lead can be  
15 mixed with silver and etched into the interior of the  
16 panel into the glass as part of the conductive -- as  
17 part of the conductive material.

18          Q.    Lead is a toxic material, correct?

19          A.    In certain circumstances. Surely not  
20 when encapsulated in layers of plastic and glass in  
21 the solar panel.

22          Q.    Do the panels contain silicon?

23          A.    Yes. That's by -- by weight. The panels  
24 are mostly glass.

25          Q.    Have you ever had any personal experience

1 in which you have inspected a solar facility that has  
2 been struck by a tornado?

3 A. Can you please repeat the question?

4 Q. Have you had any -- have you ever  
5 personally inspected any solar facility that's been  
6 struck by a tornado?

7 A. I have not personally been at a site  
8 that's been struck by a tornado. I believe that's  
9 happened only once.

10 Q. You're aware that Preble County was the  
11 location of a number of tornadoes this spring?

12 A. We're aware. When we develop a project,  
13 we frequently or in this case did look at the  
14 historic NOAA data, National Oceanic and Atmospheric  
15 Administration data on severe weather events to see  
16 what has happened in places before, and the  
17 occurrence of tornadoes in this area is vanishingly  
18 rare in the county in general. Some years there's  
19 certainly an aberration, but yeah, we're very aware  
20 of it.

21 Q. When you did that research, did you find  
22 out how many tornadoes touched down in Preble County  
23 this spring?

24 A. I don't have the exact number. I  
25 wouldn't venture a guess.

1           Q.    Would you give me an estimate of how many  
2 approximately you found in your research?

3           MR. SETTINERI:  I just object.  Asked and  
4 answered.  He said he wouldn't venture to guess.

5           MR. VAN KLEY:  I'm just asking if he can  
6 make an estimate.

7           A.    Over the last 50 years, I believe it was  
8 under a dozen in the general area.  That can mean --  
9 it depends how you define if the track touched the  
10 County or began in the County, but yeah, it was very  
11 few and none in the Project Area.

12          Q.    Have you made any commitment that the  
13 Angelina Project will use solar panels manufactured  
14 in Ohio?

15          A.    We have not made any commitment to which  
16 panels we'll use, no.

17          Q.    Have you made any commitment that you  
18 will not purchase panels whose components are  
19 manufactured in foreign countries?

20          A.    Could you repeat that question?

21          Q.    Have you made any commitment that the  
22 panels purchased for the Angelina Project will be  
23 manufactured in the United States instead of foreign  
24 countries?

25          A.    We have not.  Historically, the United



1 States produced a large number of solar panels but,  
2 due to certain market pressures at this point, does  
3 not -- more companies are moving production here, but  
4 the majority of Tier 1 solar panels are produced  
5 abroad.

6 Q. Let's go to your answer to Question 14.  
7 This answer discusses the number of jobs that are  
8 going to be created by this Project. You did not do  
9 the calculations that came up with the number of jobs  
10 that are expected to be generated by this Project,  
11 correct?

12 A. I was involved in the calculations. In  
13 order to provide the inputs for the JEDI model, you  
14 certainly need to have a degree of familiarity with  
15 the model itself, so I did run the same calculations  
16 to confirm it.

17 It's a publicly-available model. In this  
18 case we did work closely with UC as we made sure that  
19 all of the inputs were accurate to the Project.  
20 There's a lot of default inputs in the model. You  
21 need to work closely together to make sure you're  
22 getting site-specific results.

23 Q. Most of the jobs that will be generated  
24 by this Project are temporary jobs that will be  
25 existent during construction, correct?

1           A.    That's correct, but if you work in  
2   construction you know that you make a living and a  
3   career out of temporary jobs.  So I think, while jobs  
4   are temporary at the site, you are supporting jobs  
5   at --

6           Q.    Well, how long is construction  
7   anticipated to last for this Project?

8           A.    Up to 12 months.

9           Q.    And the jobs that are being created for  
10   construction of this Project include various types of  
11   occupations, right?

12          A.    Correct.

13          Q.    Okay.  So not everybody, who has a  
14   construction job, will be -- who has a construction  
15   job, related to this Project, will be employed for  
16   the entirety of the 12-month construction period,  
17   right?

18          A.    It's likely they could be moved to  
19   another similar project, whether it's solar or doing  
20   similar construction activities somewhere else,  
21   that's correct.

22          Q.    Okay.  So, for example, do you have any  
23   trades that will be working on the construction of  
24   the Project?

25          A.    By "trades" are you referring to Unions

1 or just --

2 Q. No. I'm talking about trade occupations  
3 such as plumbers or electricians or mechanics.

4 A. Sure. There will certainly be a number  
5 of electricians, both low-voltage, medium-, and  
6 high-voltage electricians on the Project. We could  
7 have heavy-equipment operators for the limited heavy  
8 equipment required on the Solar Project, and similar  
9 trades.

10 Q. So let's take, as an example, the  
11 electricians that would work on the Project. What  
12 would their jobs be on this Project?

13 A. There are tens of thousands or even  
14 hundreds of thousands of connections that need to be  
15 made, checked, made and checked throughout the  
16 Project, linking panels to their wiring. That wiring  
17 leads to junction boxes where there are more  
18 connections and then from the conjunction boxes to  
19 the inverters. This is all on the DC side.

20 The inverters would change it to AC and  
21 take that power through buried cabling back to the  
22 substation where there are, of course, connections to  
23 be made with the utility substation.

24 So you have utility linemen that will be  
25 working there and a number of -- number of jobs for

1 different folks in the electrician trade.

2 Q. So, during this period of approximately  
3 12 months where construction is going to be  
4 occurring, during what percentage of that time would  
5 the electricians actually be working?

6 A. I'd say the electricians will probably be  
7 there the longest out of any trade. The substation  
8 is one of the first things we start work on, so I'd  
9 say probably nine months. They're also involved in  
10 the decommissioning of the Project, as well, at the  
11 end.

12 Q. What type of occupation, that would be  
13 involved in construction, would have the shortest  
14 period of tenure during the Project?

15 A. Probably heavy-equipment operators  
16 involved, say a crane operator that's solely there to  
17 deliver inverters or someone involved purely in  
18 grading. We don't expect much grading on this site,  
19 apart from perhaps the substation location, so that  
20 would likely be the lowest as far as job.

21 Q. Okay. And approximately how much time  
22 would those people spend on the job during the  
23 construction of the Project?

24 A. That's one where I don't have a good  
25 timeline for you.

1           Q.    Okay.  But each one of those employment  
2 positions is counted as one of the direct jobs  
3 included in your total of jobs for the construction;  
4 is that right?

5           A.    I'd like to refer to the Application and  
6 the socioeconomic report.

7           Q.    Sure, go ahead.

8           THE WITNESS:  This will just take a few  
9 minutes.

10          ALJ SCHABO:  Let's go off the record for  
11 just a moment.

12                (Off the record.)

13          ALJ SCHABO:  Let's go back on the record.  
14 Do you want to -- do you know what the  
15 question was posed?

16          THE WITNESS:  If we could have the  
17 question repeated, that would be appreciated.

18          MR. VAN KLEY:  Sure.

19                Can we have it reread?

20          ALJ SCHABO:  Yes.  Please.

21                (Record read.)

22          A.    That is correct.  If you want to follow  
23 along, otherwise I can just read it out, but in  
24 Exhibit C -- just to kind of give this context --  
25 Exhibit C of the socioeconomic and fiscal impact of

1 the Angelina Solar Facility on page 12, at the very  
2 bottom of the page it's best described in a footnote  
3 where it says "The RIMS II multipliers used in this  
4 analysis do not distinguish between full- and  
5 part-time jobs."

6 We're presenting an analysis of the jobs  
7 over the course of one year so that it includes part-  
8 and full-time positions. Even a part-time position  
9 on a solar project is still almost a full-time job.

10 Q. I'm sorry, what was the last part --

11 A. I said even a part-time position on a  
12 construction project is still someone's full-time  
13 job.

14 Q. In other words, what you're saying is  
15 that a person who works only part-time on  
16 construction of the Angelina Project has a full-time  
17 job that includes working elsewhere.

18 A. Typically, yes.

19 Q. So with regard to the jobs that will be  
20 sponsored by the Solar Project during operation, you  
21 state in your answer that the Project is predicted to  
22 create up to 19 to 22 jobs during the operations  
23 period, right?

24 A. That's correct.

25 Q. Okay. And is that just for Angelina or

1 does that include the jobs for working on the Alamo  
2 Project?

3 A. These are jobs as a result of the  
4 operation of the Angelina Solar Project, both direct  
5 and indirect.

6 Q. And how many of those jobs involve  
7 employees who are working directly for the Angelina  
8 Project?

9 A. What do you mean directly for the  
10 Project?

11 Q. How many of the 19 to 22 jobs, during the  
12 operations period, are working on tasks related to  
13 the operations of the Angelina Project?

14 A. Just let me check for one moment.  
15 Directly related to the operation of the Project, the  
16 NREL -- the NREL JEDI model estimates 11 jobs.

17 Q. Are those full-time job or part-time jobs  
18 or both full-time and part-time?

19 A. Both full-time and part-time.

20 Q. How many of those approximately 11 jobs  
21 are part-time jobs?

22 A. I can't -- I can't say for sure.

23 Q. More than half?

24 A. That would be typical.

25 Q. With regard to another topic in Answer 14

1 of your testimony, you express an opinion that the  
2 community will benefit from a Payment in Lieu of  
3 Taxes, also known as PILOT, amounting to the dollar  
4 amounts that you have in your answer.

5 Now, the County has not yet -- the  
6 County, at this point, has not adopted or approved a  
7 PILOT that would apply to the Angelina Project; is  
8 that correct?

9 A. That's correct.

10 Q. At this point do you know whether the  
11 County intends to approve PILOT for this Project?

12 A. We do not.

13 Q. Have you had communications with any  
14 County office about approving a PILOT project?

15 A. We've had communications about the PILOT,  
16 yes.

17 Q. With whom have you had those  
18 communications?

19 A. With all three of the Preble County  
20 Commissioners. We've had communications about the  
21 PILOT with the Auditor's Office. We've had  
22 communications regarding the PILOT with the  
23 Engineer's Office; the Office of Homeland Security,  
24 also, that manages emergency response. We've also  
25 had conversations with the townships involved.



1           Q.    You're aware that if the PILOT is  
2 approved for Preble County, it would be the  
3 Commissioners that would have to vote for that?

4           A.    Correct.

5           Q.    Have any of the Commissioners indicated  
6 whether they favor the approval of PILOT for the  
7 County?

8           A.    They have not. They have expressed they  
9 just need to learn about the PILOT and learn about  
10 the Project and actually that's kind of as far as  
11 it's gotten at this point.

12          Q.    Now, you're aware that the landowners who  
13 are participating in the Project currently pay  
14 property taxes on that land?

15          A.    Yes.

16          Q.    And you're aware that if the PILOT is  
17 approved then those landowners will no longer pay  
18 property tax?

19          A.    We're aware that the -- that the PILOT  
20 will exempt the underlying real estate from being  
21 taxed. In lieu of those taxes and taxes that the  
22 Project would be paying, the Project will instead be  
23 paying \$7,000 per megawatt which equates to roughly  
24 11 times what is currently being collected on that  
25 same acreage.

1           Q.    Now, you're aware that the PILOT -- that  
2   the property taxes paid on that land currently fund  
3   the local schools and the townships?

4           A.    Yes, I am aware.

5           Q.    And you're aware that there is some  
6   concern, among local elected officials, about whether  
7   the schools and the townships will receive some or  
8   all of the -- whether they will receive a portion of  
9   the PILOT taxes that might be paid if PILOT is  
10   adopted there?

11          A.    There's a point when I believe folks were  
12   still learning about the PILOT, and the QEP process  
13   in general, where that might have been a belief that  
14   folks had. I don't know at this point.

15                But a letter from Ohio Department of  
16   Taxation to another county, in addition to recent  
17   legislation -- some recent changes to the statute,  
18   that were in the recently-passed budget bill in Ohio,  
19   do address those concerns about any -- how the  
20   disbursement might work.

21                As I've learned from our counsel and from  
22   other counsel in Ohio and in speaking with the ODSA,  
23   the disbursement is based on the -- on the property  
24   tax rates, on the millage, as a percent of the total  
25   millage for where the Project is located.

1           Q.    So it's your understanding that the  
2   recently-passed State budget bill will require some  
3   of the PILOT payments to be made to the townships and  
4   the schools?

5           A.    That's -- that's not part of the budget  
6   bill.  The budget bill addresses some other concerns  
7   about when the Project needs to be in service and in  
8   place.

9                   There really isn't -- there really isn't  
10  any strong concern that the disbursement wouldn't  
11  work along the lines that I've described.  That's  
12  accepted by the State of Ohio and by -- and by the  
13  ODSA who monitors the projects and how it's currently  
14  disbursed on wind projects and other QEP projects  
15  throughout the State.

16          Q.    Okay.  I guess I'm confused now by your  
17  testimony because I thought you said there had been  
18  some legislative law passed by the State of Ohio that  
19  would clarify that PILOT payments are to be made to  
20  the townships and schools; is that the case or is  
21  that not the case?

22          A.    No, there really isn't any concern that  
23  the PILOT payments won't be made to the townships,  
24  the schools, to the tech center, to the library;  
25  instead, what the statute has fixed was any

1 qualification that the payments be made in the first  
2 place which I believe was one of the concerns.

3 Q. Okay. What I asked was whether --  
4 whether you believe a law has been passed recently to  
5 clarify that those payments do go to schools and  
6 townships.

7 A. There doesn't need to be a law passed to  
8 do that; that's the way it works.

9 Q. Okay. So your answer to my question is  
10 no?

11 MR. SETTINERI: I object. To what  
12 question?

13 MR. VAN KLEY: I asked him whether he's  
14 aware of any law that clarified -- that passed  
15 recently that clarifies that PILOT payments are to be  
16 made to the schools and the townships, and that's the  
17 question I need an answer to.

18 A. No law has been passed because that's not  
19 anything that requires clarification.

20 Q. You're aware that the Preble County  
21 Auditor has expressed concerns that the PILOT  
22 project -- the PILOT payments will not be made to the  
23 schools and the townships?

24 MR. SETTINERI: I'd just object. Lack of  
25 foundation.

1                   ALJ SCHABO: He can answer whether he's  
2 aware.

3                   A. I'm aware that, perhaps earlier this  
4 year, I don't remember the exact timing, when folks  
5 were in the process of learning more about the PILOT,  
6 and I would be -- I'm not sure if that's still the  
7 case. I imagine, at this point, that's no longer the  
8 belief.

9                   Q. You're aware that the County Auditor was  
10 expressing concerns that the payments would not be  
11 made to townships and the schools; isn't that  
12 correct?

13                  A. As part of their diligence, I do believe  
14 that they went through confirming -- confirming that  
15 would not be the case.

16                  Q. Okay. Again, you need to answer my  
17 question which is: Did the Auditor express concerns  
18 that the payments would not be made to the schools  
19 and the townships?

20                  A. Yes, they did -- to my knowledge they  
21 expressed some concerns.

22                  Q. All right. And has the Auditor, since  
23 that time, since the time of expressing those  
24 concerns, announced that she no longer had those  
25 concerns?

1           A.    To my knowledge, no.

2           Q.    Okay.  Let's go to your answer to  
3   Question 15 on page 7 of your Direct Testimony.  I'd  
4   like to direct your attention to lines 8 and 9 of  
5   Answer 15 on page 7, where it's stated "Temporary  
6   construction activities are expected to have typical  
7   and relatively limited impacts given their  
8   intermittent nature, time of day restrictions, and  
9   use of best management practices."

10                 During construction there will be posts  
11   installed that will be used to support the solar  
12   panels, correct?

13           A.    That's correct.

14           Q.    And those posts will be installed by one  
15   of two methods, either by driving the post into the  
16   ground or by screwing it into the ground essentially,  
17   correct?

18           A.    That is correct.

19           Q.    Okay.  Now, with regard to the driving of  
20   the post into the ground, that post is made out of  
21   metal?

22           A.    Yes.  Steel, typically.

23           Q.    And what's it driven into the ground  
24   with?

25           A.    If it's being driven, as opposed to

1       screwed into the ground, that will be with a pile  
2       driver.

3               Q.     Is the pile driver also composed of  
4       metal?

5               A.     I believe so.

6               Q.     Okay. So the process of driving the post  
7       into the ground will entail pounding metal on metal,  
8       correct?

9               A.     Again, I can't be certain, but I believe  
10      that's the case.

11              Q.     Okay. That process is going to be -- is  
12      going to produce some loud noises, right?

13              A.     Yes, that will produce some noise.

14              Q.     Now, what amount of time will it take,  
15      out of the 12 months of construction time, to drive  
16      those posts into the ground or to screw them into the  
17      ground if the alternative method is used?

18              A.     I recently did some calculations on this,  
19      but that would take probably three or four months for  
20      the entire Project Area.

21              Q.     Would you go to the Application and find  
22      Figure 7, Sheet 1.

23                   MR. SETTINERI: What was the figure  
24      reference again, Jack?

25                   MR. VAN KLEY: Figure 7, Sheet 1.

1           A.    I'm there.

2           Q.    All right.  So if you look at this  
3 figure, you'll see that the parcels of land that are  
4 colored in yellow are part of the Project Area for  
5 the Angelina Solar Project, correct?

6           A.    That's correct.

7           Q.    And the yellow signifies where the solar  
8 panels may be installed?

9           A.    Yes, the yellow signifies the maximum  
10 extent subject to setbacks.

11          Q.    All right.  So looking at -- I'd like to  
12 have you look at the triangular parcel that is near  
13 the upper right-hand corner of that Sheet 1 of  
14 Figure 7.  Do you know approximately how many acres  
15 is in that parcel that is shown in yellow?

16          A.    I believe the parcel itself is 120 acres  
17 approximately.  I would have to confirm though.

18          Q.    All right.  And the square dots show  
19 where nonparticipating neighbors live in their homes,  
20 correct?

21          A.    Correct.

22          Q.    In other words, the square dots shows the  
23 location of their home?

24          A.    Yes.

25          Q.    And there's a nonparticipating landowner



1 whose property is shown by a gray rectangle that is  
2 surrounded on three sides by that triangular solar  
3 parcel?

4 A. I see it there, yes.

5 Q. Okay. Now, for what period of time will  
6 it take Angelina to install the posts for the solar  
7 panels in that triangular parcel of land?

8 A. It's dependent on the number of crews and  
9 the final engineering of the Project.

10 At this point, as a proposed Project, we  
11 have an idea for the number of posts that will be  
12 installed as a maximum, but that's not -- that's not  
13 finalized at this point so I can't -- I can't say  
14 exactly how long that would take in that one spot.

15 But the Project is typically constructed  
16 in phases so you're never -- you're not in one spot  
17 doing all the work the entire time, you're moving  
18 through the project, but yeah, I wouldn't really wish  
19 to hazard a guess.

20 Q. All right. So am I understanding you  
21 correctly to say -- am I correctly understanding you  
22 to say that once -- once Angelina starts installing  
23 posts on a parcel of land, it won't necessarily  
24 continue without interruption to finish the post  
25 installation until that parcel is done?

1           A.     Sorry. The work will likely continue in  
2     a given area until that work is done, that's correct.

3           Q.     Okay. Now, when you did your estimate of  
4     three or four months to install posts, did you  
5     calculate the number -- the number of posts that  
6     would be installed per hour or per day or some other  
7     unit of time?

8           MR. SETTINERI: I'll just object to  
9     mischaracterizing the testimony. To the extent  
10    you're saying he formed an estimate, I believe he  
11    gave you testimony on that; but to the extent you're  
12    characterizing it as a study that was done, that's  
13    what I object to.

14          Q.     When you calculated three or four months  
15    of time to install the posts for the solar panels,  
16    did you make an estimate of the amount of time it  
17    would take per acre to install those posts?

18          MR. SETTINERI: I apologize that I have  
19    to object again, but I do want a clean record. I  
20    object to the statement he "calculated." Again, he  
21    gave an estimate, I believe, on the stand. I don't  
22    believe he performed a calculation on the stand.

23          MR. VAN KLEY: I don't know how you can  
24    estimate something without calculating it.

25          Q.     Let me just cut through this and ask you

1 to explain how you came up with your three- or  
2 four-month estimate of time to install the posts.

3 A. Sure.

4 There's a number of posts in the Project,  
5 as defined in the Application and exhibits.  
6 Depending on the technology, you can get a certain  
7 number of posts in per day per crew. So you take  
8 that number, along with the number of crews, and you  
9 get a pretty good sense for how quickly you could  
10 move through a Project Area and install those posts.

11 Q. All right. So, during this process, did  
12 you estimate the number of posts that could be  
13 installed in a day by a crew?

14 A. There are different estimates from the  
15 installers and from the manufacturers of posts out  
16 there. It could be wide-ranging.

17 Q. What figure did you use to come up with  
18 your estimate?

19 A. I looked at between 100 and 200 posts per  
20 crew per day.

21 Q. And in a field of the size of that  
22 triangular parcel on Sheet 1 of Figure 7,  
23 approximately how many posts will be installed in  
24 that field?

25 A. Let me quickly consult the Application

1 for the number of posts and I can probably give you  
2 a --

3 Q. Okay.

4 A. -- high-end estimate.

5 I'd expect, in that area, that you would  
6 have approximately 8,000 posts maximum, but that's a  
7 very, very conservative number in terms of the high  
8 end.

9 Q. So it would take one crew approximately  
10 40 to 80 days to install the posts in that parcel?

11 A. Off the top of my head, based on the  
12 numbers I gave you, that sounds right. That's one  
13 crew. There's typically many crews on a project.  
14 You don't have one pile driver doing the work.

15 Q. Well, at this point in time, has Angelina  
16 decided how many crews it will use for that purpose  
17 in the Angelina construction?

18 A. We have not, but it will be many more  
19 than one crew, I can assure you that.

20 Q. When you employ more than one crew, do  
21 all of the crews work in the same field at the same  
22 time or do they spread out throughout the Project  
23 Area?

24 A. That could vary by construction  
25 decisions.

1           Q.   Well, in the other projects that you have  
2 worked on, have there ever been any instances in  
3 which only one crew has installed all the posts in a  
4 particular field?

5           A.   In the other solar projects I've worked  
6 on, I can't speak specifically to the number of  
7 crews, except that when we were doing the soliciting  
8 of the engineering and procurement teams that would  
9 run these processes, they always accounted for, I  
10 can't speak to the exact number, I just know it was  
11 more than one crew, several crews, but I don't have  
12 that for you.

13          Q.   So on these other projects in which  
14 you've been involved in the construction, you know  
15 that more than one crew was hired to drive posts, but  
16 you don't know whether those crews all worked in the  
17 same fields at the same time or whether they were  
18 spread out through the project area?

19          A.   I'm not certain on that. In the cases  
20 that I have seen it's usually multiple crews working  
21 in the same field. That doesn't mean there aren't  
22 other crews doing the same thing on the other side of  
23 the Project.

24          Q.   I'm sorry, your last sentence tailed off  
25 there and I couldn't hear. Could you say that again?

1           A.     Sure.  There are typically multiple crews  
2     working in the same spot, but that doesn't preclude  
3     other crews from being in a different part of the  
4     Project.

5           Q.     And it doesn't preclude a situation in  
6     which one crew does all of the post installation in a  
7     field, correct?

8           A.     I think the economics of constructing a  
9     solar farm would preclude that.  You're trying to get  
10    things installed as efficiently as you can.  If you  
11    only have one crew going that means you only have one  
12    crew installing racking and one crew installing  
13    modules behind them.

14                We're trying to get things done in good  
15    seasons to do this work in a timely manner so having  
16    one crew doing that would slow things down for the  
17    rest of the process of installing the entire Project,  
18    so I don't think it's a realistic scenario.

19           Q.     Let's go to page 8 of your testimony  
20    which is part of Answer 16.  I'd like to direct your  
21    attention to lines 6, 7, and 8 of your testimony on  
22    page 8.

23                Now, here you say "The minimal sound from  
24    the operation of the Project will be essentially  
25    inaudible for all non-participating residences due to

1 the near-silent operating nature of solar arrays and  
2 by locating inverters sufficiently far from  
3 neighboring residences."

4 What's the basis of your statement that  
5 the minimal sound from the operation of the Project  
6 will be essentially inaudible for all  
7 nonparticipating residences?

8 A. Sure. That comes from my knowledge  
9 having visited operational solar farms around the  
10 country. Any time I see one, I pull over and check  
11 it out. I go right to the fence, unless I'm  
12 trespassing, and listen, because I get this question  
13 from every landowner that I talk to. So that's  
14 certainly -- that's certainly one part of it.

15 The racking, if we use a tracking module,  
16 moves so imperceptibly slow. The motors are so small  
17 there really is no perceptible noise from that.

18 And with inverters being the one part of  
19 the Project that, during day and not the night would  
20 make any sound when placed sufficiently far away, as  
21 described in the Application, they would be -- you  
22 wouldn't be able to hear them at neighboring  
23 residences above just typical background noise.

24 Q. So when you say in your testimony -- when  
25 you refer to the "near-silent operating nature of

1 solar arrays," by "solar arrays" you're referring to  
2 the solar panels?

3 A. Correct, yes.

4 Q. Okay. So you're saying the solar panels  
5 have a near-silent operation.

6 A. The panels and their associated  
7 infrastructure, yes.

8 Q. The associated infrastructure meaning  
9 what?

10 A. Meaning the racking, the tracking motors.

11 Q. Okay. Well, let's talk a little bit  
12 about the inverters then. Have you ever conducted  
13 any sound measurements to measure the noise from a  
14 solar inverter?

15 A. I have not. We typically work with  
16 experts in the field to measure those kind of -- to  
17 have those measurements.

18 Q. And in this case you're relying on  
19 Mr. Hessler's testimony?

20 A. Correct.

21 Q. Now, when you say the minimal sound from  
22 the operation of the Project will be essentially  
23 inaudible for all non-participating residences by  
24 locating inverters sufficiently far from neighboring  
25 residences, did you have a distance in mind when you



1 wrote this testimony?

2 MR. SETTINERI: I just object. I don't  
3 believe he stated the whole part of the testimony.  
4 With that, the witness can answer.

5 MR. VAN KLEY: I'm sorry, would you  
6 repeat that, Mike?

7 MR. SETTINERI: I don't think you read  
8 the entire sentence in your question.

9 MR. VAN KLEY: No, I didn't --

10 MR. SETTINERI: I just want to make sure  
11 it's clear.

12 MR. VAN KLEY: -- because we've already  
13 talked about the solar arrays.

14 MR. SETTINERI: I just want to make clear  
15 for the record, you're stating that's what he  
16 testified to and there's a complete sentence there.  
17 That's all. With that, the witness can answer the  
18 question.

19 Q. (By Mr. Van Kley) Mr. Hessler (sic), when  
20 you talked about locating inverters sufficiently far  
21 from neighboring residences in this testimony, did  
22 you have a distance in mind that you believe would  
23 prevent neighboring residences from hearing the  
24 inverters?

25 MR. SETTINERI: I just object for the

1 record. I believe you called him "Mr. Hessler."  
 2 With that said, maybe the court reporter can reread  
 3 the question with the understanding that it's  
 4 "Mr. Herling" and then he can answer the question.

5 Q. (By Mr. Van Kley) Mr. Herling, your name  
 6 also starts with an "H." It's really confusing me.

7 Do you have a distance in mind with  
 8 regard to how far away an inverter would have to be  
 9 so that a neighboring resident would not be able to  
 10 hear it?

11 A. I would still defer to Mr. Hessler on  
 12 that question but, based on his work and research,  
 13 it's expected that inverters -- that a central  
 14 inverter, just being specific, would be essentially  
 15 inaudible around 150 feet.

16 Q. And what do you mean by your reference to  
 17 a "central inverter"?

18 A. Inverters typically fall into two  
 19 categories: Central and string.

20 String inverters might just handle one  
 21 string of panels. Typically 28 panels are in a  
 22 string. Whereas, a central inverter could handle  
 23 several, a couple megawatts or a few hundred  
 24 kilowatts to a few megawatts of power in a single  
 25 central inverter.

1           Q.    How many central inverters are planned  
2   for the Angelina Project?

3           A.    That depends on the number of -- that  
4   depends strongly on the capacity of the inverter, so  
5   that would have to be arranged. I would need to  
6   check the Application to give you that number.

7           Q.    Okay. Why don't you do that.

8           A.    Okay. I found it on page 1-4 of the  
9   Ecological Assessment Report. About two-thirds of  
10   the way down the page, we refer to up to 40 inverter  
11   pads.

12          Q.    And these 40 inverter pads would hold 40  
13   central inverters?

14          A.    Yes. Some central inverters are  
15   essentially aggregated string inverters, but yes, 40  
16   central inverters.

17          Q.    And then how many string inverters are  
18   planned for the Project?

19          A.    I don't have an estimate for that. Those  
20   can be mounted up beneath an array and don't have a  
21   ground footprint, so it's not an impact we are  
22   considering.

23          Q.    What's your belief as to how far the  
24   sound from a string inverter can be heard?

25          A.    A string inverter would not be terribly

1 different from a micro inverter or an inverter on a  
2 house for solar or a small inverter at a school where  
3 you might have solar on a rooftop. I don't have a  
4 distance in mind, but I've been very close. You  
5 can't really -- it's inaudible.

6 Q. Is there anything in the Application or  
7 in the Stipulation that has been agreed to by some of  
8 the parties in this case that would establish where  
9 the inverters are going to be installed?

10 A. We make reference throughout the  
11 Application about the characteristics for how we  
12 would site an inverter; typically central to the  
13 Project.

14 Q. Central to what part of the Project?

15 A. Interior to the Project. From an  
16 electrical standpoint, it helps to have the central  
17 inverters central to the portion of the array that  
18 they're collecting to avoid electrical line losses  
19 and for the efficiency of the layout, so that's why  
20 we anticipate them to be and plan to have them on the  
21 interior of the Project.

22 Q. So when you say the inverters are planned  
23 to be installed in the interior of the Project, what  
24 you mean is that Angelina plans to install the  
25 inverters in the -- in the interior of the solar

1 fields?

2 A. That's correct.

3 Q. Is there anything in the Application that  
4 specifically states that Angelina will install the  
5 inverters in the interior of the solar fields?

6 A. Let me confirm that for you.

7 Q. Okay.

8 A. It might take me a few minutes. There's  
9 a couple reports I want to look at.

10 Q. And while you're looking for that  
11 information, my next question will be whether there's  
12 anything in the Application or the Stipulation in  
13 which Angelina commits to installing the inverters at  
14 least 150 feet away from the property lines of  
15 adjacent landowners, so you can look for both of  
16 those facts at the same time.

17 MR. SETTINERI: Your Honor, can we take a  
18 five-minute break?

19 ALJ SCHABO: Absolutely. We'll give  
20 Mr. Herling five minutes off the record. Everybody  
21 else can take a break.

22 MR. SETTINERI: Thank you.

23 (Recess taken.)

24 ALJ SCHABO: Let's go back on the record.  
25 How far back do you want the question

1 reread, the first question?

2 MR. VAN KLEY: I'll just re-ask the  
3 question.

4 ALJ SCHABO: You'll just re-ask? Okay,  
5 thank you.

6 Q. (By Mr. Van Kley) Mr. Herling, have you  
7 had a chance to go through the Application to obtain  
8 information to answer my two questions?

9 A. I believe so.

10 Q. Okay.

11 A. If you could repeat them, please?

12 Q. The first question is whether there is  
13 anything in the Application that commits Angelina  
14 Solar to installing the inverters in the interior of  
15 a solar field.

16 A. On page 58 of the narrative of the  
17 Application, about halfway down, it reads: "The  
18 Project will be designed to site the inverters within  
19 the solar fields to ensure they do not cause  
20 material, adverse impacts to any sensitive, off-site  
21 receptors." This sentence is in regard to  
22 operational sound generated by Project activities and  
23 in particular this is in regard to the inverters.

24 Q. All right. So it says "The Project will  
25 be designed to site the inverters within the solar

1 fields...." So that simply means that the inverters  
2 will be installed somewhere in the solar fields,  
3 right?

4 A. Yes, that means they'll not be on the  
5 outside of the solar field. They'll be within the  
6 solar field.

7 Q. Is there anything within the Application  
8 or in the Stipulation that would require the  
9 inverters to be installed at least 150 feet away from  
10 any property lines of nonparticipating landowners?

11 A. We say specifically right here that  
12 they'll be sited to avoid adverse impacts to any  
13 sensitive off-site receptors.

14 If it's determined that a given  
15 technology would have an impact at a residence at a  
16 closer distance then that would be taken into  
17 account, but the Application, as its written here,  
18 intends to install the inverters on the interior of  
19 the Project.

20 In the event there is a concern with  
21 sound during operation, as noted in the Stipulation,  
22 there's a complaint resolution process and we have  
23 the ability to mitigate any sound created by an  
24 inverter in that event.

25 Q. So there's nothing in the Application

1 that specifically states that the inverters will be  
2 installed at least 150 feet away from the property  
3 lines, is there?

4 A. We state -- we state that the inverter  
5 typically will fade to background at 150 feet, based  
6 on Hessler's report, which would inform kind of a  
7 baseline distance to avoid adverse impacts.

8 Q. All right. So is it your answer then  
9 that you believe the Application does require the  
10 inverters to be installed at least 150 feet away from  
11 the property lines?

12 A. I think it's, again, dependent on the  
13 inverter.

14 Q. So is the answer, then, to my question,  
15 no, it does not require?

16 MR. SETTINERI: I object. Asked and  
17 answered.

18 ALJ SCHABO: He hasn't answered it  
19 directly yet.

20 MR. VAN KLEY: Pardon me, Your Honor?

21 ALJ SCHABO: He hasn't answered it  
22 directly yet.

23 A. I don't believe the Application  
24 specifically commits us to setback 150 feet. It  
25 commits us to setback a distance that does not cause



1 material adverse impacts to any -- to any  
2 nonparticipating landowner.

3 Q. Going back to your Direct Testimony on  
4 page 8. On line 10, you refer to the preservation of  
5 natural vegetative buffers. Is there anything in the  
6 Application that specifically identifies what  
7 vegetative -- what vegetated areas will be preserved  
8 and which ones will not be preserved?

9 A. Yes. I believe in the figures of the  
10 Application in the ecological report there are maps  
11 that specifically identify areas that could be  
12 removed and could be kept. In this case, we are  
13 proposing to remove up to .07 acres of trees.

14 Q. Could you identify the portion of the  
15 ecological study that identifies the areas that will  
16 be kept and will not be kept?

17 A. Just give me a moment.

18 If you look at Figure 1, titled "The  
19 Buildable Area."

20 MR. SETTINERI: What figure was that?

21 THE WITNESS: Figure 1.

22 MR. SETTINERI: Thank you.

23 Your Honor, that is a full-size map  
24 that's in a sleeve.

25 A. It's somewhat difficult to see the exact

1 area clearing because it's hard to perceive less than  
2 a tenth of an acre on these maps sometimes, but you  
3 can see here all the woodlands that are being  
4 preserved.

5 Q. And how do you tell on that map which  
6 woodlands are being preserved?

7 A. Based on the legend.

8 Q. Is there a particular color that?

9 A. It's a dark green and slightly less dark  
10 green. The wooded habitat is this dark green color  
11 you see throughout the map. So we're essentially  
12 preserving all of the woodlots on the Project. The  
13 .07 acres is potential clearing for a collection line  
14 in the southern wooded area along the edge of the gap  
15 about two-thirds of the way west in the most southern  
16 woodlot.

17 Q. On page 8 of your testimony, line 11, you  
18 state that there will be the addition of added  
19 vegetative screening, including landscaping with  
20 pollinator habitat, in selected locations. What do  
21 you mean by "selected locations"?

22 A. Is that in regard to the vegetative  
23 screening or pollinator habitat or both?

24 Q. Well, however you meant it in your  
25 testimony.

1           A.     Here, "in selected locations" means  
2     whether it's going to have the highest -- based on  
3     the type of vegetative screening or inclusion of  
4     pollinator habitat where it's going to have its  
5     highest and best use to mitigate any potential visual  
6     impacts of the Project.

7                     So where there's an adjoining landowner  
8     with a direct view of the Project or on certain road  
9     frontage as well, pollinator habitat can certainly  
10    have benefits to neighboring property owners so, in  
11    that case, it could be sited along the edge of the  
12    Project to benefit some of the neighbors as well.

13           Q.     Go to page 10 of your testimony,  
14    Answer 18. I'd like you to take a look at lines 20  
15    and 21 where it's stated that "The Applicant will use  
16    commercially reasonable efforts during construction  
17    to promptly repair any such drain tile that is  
18    damaged." Do you see that?

19           A.     I do.

20           Q.     How would you define the term  
21    "commercially reasonable efforts" as you use that  
22    term in this testimony?

23           A.     Let me quickly reread the Question and  
24    Answer here just to get the context.

25                     Sure. So here, "commercially reasonable"

1 is dependent on the type and purpose of any tile that  
2 is damaged.

3 In the event of lateral tile, that may  
4 not affect a neighboring landowner or is not integral  
5 to the long-term stability and success of the Project  
6 there and of the land, we might do an alternate  
7 method instead of repairing that tile. We may cap it  
8 at the main or employ other methods as opposed to  
9 repairing or replacing

10 Q. Is this term meant to express any dollar  
11 cap -- is this term meant to express that there may  
12 be a dollar cap on the repairs that would be  
13 considered to be commercially reasonable?

14 A. Can you say that one more time?

15 Q. Yeah.

16 When you use the term "commercially  
17 reasonable efforts" that would guide your repair of  
18 drainage tiles, do you intend it to express that the  
19 repairs would not be done if they exceed a certain  
20 dollar amount?

21 A. Again, it's highly dependent on the tile,  
22 so I think in every situation that amount could be  
23 different. If it's a tile that's needed to drain  
24 land that is adjacent to the Project that's not  
25 participating, then it's something that we are

1 certainly obligated to fix.

2 For our own landowner's tile, that might  
3 be more used to enhance yields as opposed to our use  
4 of draining the Project, then you'll certainly have a  
5 different metric there.

6 And there may be other methods, as  
7 opposed to just repairing tile, whether surface  
8 drainage could be employed in a certain situation,  
9 for example, or simply just dewatering an area.

10 Q. So if the tile that needs replacement or  
11 repair extends onto some nonparticipating landowner's  
12 property, Angelina Solar would do that replacement or  
13 repair regardless of how much it would cost?

14 A. Well, the word "promptly" is important  
15 there and it's whether -- whether it's something that  
16 needs to be done as soon as possible or not.

17 Q. Well, let me rephrase the question then.

18 If a tile needs replacement or repair and  
19 it is a tile that extends into a nonparticipating  
20 landowner's property, would Angelina Solar repair or  
21 replace that tile regardless of the cost?

22 A. At a certain point another method of  
23 equal efficacy could be employed, so I don't -- I  
24 don't think that repair would be, in that case, the  
25 way we would go. It would be replaced with another

1 method.

2 Q. Replaced with another what?

3 A. Another equal method of drainage.

4 Q. Such as what?

5 A. I mentioned surface drainage like a swale  
6 for example. We have a drainage expert who will  
7 testify as well. Off the top of my head, that's one  
8 option.

9 Q. So if you replace a broken tile with a  
10 swale, then would that swale discharge its water onto  
11 the adjoining landowner's property?

12 A. I believe we're talking about an upstream  
13 landowner hypothetically.

14 Q. So it would only be in the case where the  
15 tile comes from an adjoining landowner and then goes  
16 onto the Applicant's land where Angelina may consider  
17 using a swale instead of a tile to address the  
18 drainage issue?

19 A. I don't know if that's 100-percent true.  
20 You can see there's many different scenarios that  
21 could happen, so what is commercially reasonable in  
22 each scenario could vary.

23 Q. So if Angelina is qualifying its  
24 commitment to repair or replace tiles only insofar as  
25 it is commercially reasonable to do so, how can a

1 neighboring landowner be assured that the certificate  
2 in this case is going to protect that landowner from  
3 flooded land?

4 MR. SETTINERI: I'll just object. Lack  
5 of foundation as to "flooded land." If it's a  
6 hypothetical, we can set a hypothetical up.

7 A. I would need to confirm --

8 MR. SETTINERI: There's an objection  
9 pending.

10 THE WITNESS: Sorry, sorry.

11 ALJ SCHABO: Could you rephrase? Can you  
12 rephrase your question, please?

13 MR. VAN KLEY: Yes.

14 Q. (By Mr. Van Kley) If Angelina Solar is  
15 committing only to replace or repair tile if it is  
16 commercially reasonable to do so, how can any  
17 neighboring landowner be assured that broken or  
18 repaired tiles on Angelina's Project Area are not  
19 going to result in the flooding of the neighbor's  
20 land?

21 A. Again, I think in this section, this line  
22 we've been talking about reads: "The Applicant will  
23 use commercially reasonable efforts during  
24 construction to promptly repair...." It's not  
25 talking about repairing never or at all. It's

1 talking about repairing promptly. So I think that's  
2 different than the question you're asking unless  
3 we're talking purely in hypotheticals. We don't say  
4 the words "commercially reasonable efforts to  
5 repair." It's "promptly repair."

6 Q. Okay. So moving on in the same answer to  
7 line 1 on page 11. Do you use the term "commercially  
8 reasonable efforts to promptly repair any such  
9 damage" in the same way there?

10 A. I would say here that "commercially  
11 reasonable" is similar in that, during the operation  
12 of the Project, again it's dependent on how --  
13 especially on how promptly we'll fix it depending on  
14 the purpose, the function, and the location of the  
15 tile in this situation.

16 Q. I'm not sure I understood that answer.  
17 Let me make an effort to clarify it.

18 When you use the term "commercially  
19 reasonable efforts to promptly repair any such  
20 damage" on line 1 on page 11 of your testimony, does  
21 the reference to "commercially reasonable efforts"  
22 apply only to how fast the repair is going to be  
23 made?

24 A. I believe it's commercially reasonable  
25 damage to promptly repair, correct.



1 Q. So the answer to my question is yes then?

2 A. If you could please repeat the question  
3 then.

4 Q. My question is whether the term --  
5 whether the reference to "commercially reasonable  
6 efforts" only refer to how quickly the damage will be  
7 repaired.

8 A. I believe that's the case.

9 Q. Okay. Now, from working on this Project  
10 and the Alamo Project, you are aware that, during  
11 certain times of the year, when a crop has either  
12 just been planted or the crop is still very small in  
13 its growth, that any flooding of that crop will  
14 damage or kill that crop within a short period of  
15 time?

16 A. I don't have personal knowledge of that.

17 Q. Well, you've heard testimony to that  
18 effect, have you not?

19 A. I've not heard testimony to that effect  
20 in this case, no.

21 Q. You've heard testimony to that fact in  
22 the Alamo case, did you not?

23 A. It's not testimony that I can rely on.  
24 It's one -- it's one data point. I have not heard  
25 that confirmed otherwise. It could be reasonable,

1 but . . .

2 Q. You have no reason to believe that, for  
3 example, a young crop, a young corn crop will survive  
4 for more than 48 hours if the field is flooded, do  
5 you?

6 A. Again, I don't have -- I don't have that  
7 information.

8 Q. Let's go to page 13 of your testimony.  
9 Answer 22 on page 13 of your testimony talks about  
10 the security of the Project and your testimony states  
11 that "access gates through the fence will be locked  
12 except when in use." Is there anything in the  
13 Application that identifies the means by which the  
14 fences will be locked except when they're in use?

15 A. I'd have to confirm that in the  
16 Application, the exact wording, but just that they  
17 will be locked and we give ourselves the flexibility  
18 to ensure that it's adequate.

19 Q. How are the fences in solar projects  
20 typically locked?

21 A. It can vary widely but -- yeah, it can  
22 vary. There's just different ways to lock something,  
23 whether you have a chain and a lock on it, whether  
24 it's keyed entry or keypad or a combination.

25 Q. In cases where the gates may be locked

1 through a padlock or a chain, burglars can defeat  
2 that lock by using bolt cutters?

3 A. I've certainly had those locks -- I've  
4 had some padlocks cut through with bolt cutters, so  
5 I'd have to say yes.

6 Q. And the fences that will be used for the  
7 Angelina Project are expected to be chain-link  
8 fences?

9 A. In most cases.

10 Q. Is there anything in the Application that  
11 says whether it's going to be a chain-link fence or  
12 whether it will be made out of some other material?

13 A. We define a number of materials that can  
14 be used. We anticipate the majority will be  
15 chain-link but, in some situations, it could be more  
16 of an agricultural fence to make it more visually  
17 appealing.

18 Q. Can criminals cut through fences of that  
19 nature?

20 A. I'm not aware. I've seen chain-link  
21 fences cut before, so I assume so.

22 Q. Your Answer 22 also refers to operational  
23 personnel conducting periodic security checks of the  
24 Project. Is there anything in the Application that  
25 specifies how often those security checks will be

1 made?

2 A. It's -- the Application does not specify,  
3 but everyone working on a project operationally,  
4 whether it's operations or maintenance, is trained to  
5 report anything they see that's unusual; so whether  
6 it's their distinct task to be doing security for the  
7 Project, or they're driving by and something is  
8 amiss, then they -- then that's reported, so yeah.

9 Q. Will any periodic security checks be made  
10 during dark hours of the day?

11 A. If determined, during the design and  
12 engineering of the Project, then that could be an  
13 option but not in all phases.

14 Q. So, at this point in time, you don't know  
15 whether there will be security checks at night at the  
16 Angelina Project.

17 A. There could be -- in regards to security  
18 checks there could be other ways to ensure security  
19 at night as well.

20 Q. Is there anything in the Application that  
21 specifies what such methods will be used?

22 A. Much of the methods, with regard to the  
23 security of a solar project, can also be placed on us  
24 by folks providing the insurance for the Solar  
25 Project or the financing for the Project. If they

1 don't believe that the Project will be secure when  
2 they run their assessment of how it's designed and  
3 proposed to be operated, then we don't get that  
4 financing, we don't get that insurance policy that's  
5 necessary to run the Project. So if, in their  
6 determination, they believe it's required, then  
7 that's something that will be there.

8 Q. So there's nothing in the Application,  
9 itself, that even says security checks are going to  
10 be made, is there?

11 A. I'd have to confirm in the Application  
12 that there would be a mention of that.

13 Q. Okay. Why don't you check.

14 ALJ SCHABO: Let's go off the record for  
15 just a moment.

16 (Discussion off the record.)

17 ALJ SCHABO: Let's go back on the record.

18 THE WITNESS: Can you please repeat the  
19 question?

20 MR. VAN KLEY: Yes.

21 Q. (By Mr. Van Kley) Is there anything in  
22 the Application that specifies that periodic security  
23 checks of the Project will be made?

24 A. There is. On page 75 of the narrative,  
25 in the second paragraph, I can read it if you like,

1 but No. 4 in that paragraph is "periodic security  
2 checks."

3 Q. Okay. And is there anything in this  
4 language that says how often those security checks  
5 would be made?

6 A. There's nothing in that language about  
7 the frequency of it.

8 Q. And there's nothing in this language that  
9 says they will be made at night.

10 A. No, not specifically about night.

11 Q. And at the end of the paragraph you're  
12 looking at, it states as follows: "On most days, at  
13 any particular location at the Project, no operating  
14 personnel will be present," correct?

15 A. Correct, yeah, at any given inverter or  
16 panel on a given day, there might not be anyone at  
17 that specific location.

18 Q. Now, the solar panels contain copper; is  
19 that correct?

20 A. In some cases, yes. The balance of  
21 system contains copper.

22 Q. What's the balance of system?

23 A. The balance of system, or BOS as we call  
24 it, would be more the wiring.

25 Q. Okay. So they contain copper wiring?

1 A. There's some copper, yes.

2 Q. Okay. And copper is a metal that thieves  
3 can steal in order to sell it?

4 A. Generally, yes. In regard to a solar  
5 project, I've never heard of it happening.

6 Q. Well, you've never sited a solar project  
7 near the Village of Fairview, Ohio, right?

8 A. No, not until this one.

9 Q. Go to page 15 of your testimony,  
10 Answer 27.

11 A. I'm there.

12 Q. This is your answer about EMFs. Let's  
13 move on because I think we already covered that in  
14 voir dire. We'll move on to another page of your  
15 testimony.

16 MR. SETTINERI: Your Honor, if we can go  
17 off the record briefly?

18 ALJ SCHABO: Sure, we can go off the  
19 record.

20 (Discussion off the record.)

21 ALJ SCHABO: Let's go back on the record.

22 Q. (By Mr. Van Kley) Mr. Herling, directing  
23 your attention to Answer 27 of your direct testimony  
24 which starts on page 15. I want to ask you some  
25 questions about the basis for your opinion concerning

1 EMFs. What's the basis for your opinion that the  
2 Project will generate only very weak electromagnetic  
3 fields?

4 A. That's based on my knowledge and our  
5 Company's institutional knowledge of EMF. It's a  
6 question we frequently get from landowners, adjacent  
7 landowners, and something we've certainly had to  
8 study and learn a lot about from experts.

9 Q. Is it based on any measurements of EMFs  
10 from solar projects?

11 A. Yes, we refer to some studies. In this  
12 answer, I refer to a study done in Massachusetts.

13 Q. Other than that Massachusetts study, can  
14 you identify any other studies in which EMFs from  
15 solar projects were measured?

16 A. I can refer to another study that  
17 references those studies but, specifically, no.

18 Q. With regard to your statement on page 16,  
19 lines 2 and 3, that "PV arrays generate EMF in the  
20 same extremely low frequency range as electrical  
21 appliances and wiring found in most homes and  
22 buildings," can you identify any studies that provide  
23 you with that information and that are based on  
24 actual measurements of EMFs from solar projects?

25 A. Sorry, can you say that one more time? I



1 didn't quite get that question.

2 ALJ SCHABO: Why don't you break your  
3 question up. It was compound.

4 MR. VAN KLEY: Sure.

5 Q. (By Mr. Van Kley) In lines 2 and 3 on  
6 page 16 of your testimony, you state that "PV arrays  
7 generate EMF in the same extremely low frequency  
8 range as electrical appliances and wiring found in  
9 most homes and buildings." Do you see that?

10 A. Yes, I do.

11 Q. Can you identify any studies supporting  
12 that view that are based on actual measurements of  
13 EMF from solar facilities?

14 A. I believe that's referenced in the  
15 Massachusetts study. There's a collection of studies  
16 referenced by a North Carolina State Energy Center  
17 report that details some information about EMF  
18 especially with regard to appliances.

19 MR. VAN KLEY: All right. I think this  
20 is good time for a break then.

21 ALJ SCHABO: All right. We'll go off the  
22 record until 2:30.

23 (At 12:59 p.m. a lunch recess was taken  
24 until 2:30 p.m.)

25 - - -

1 Wednesday Afternoon Session,  
2 July 31, 2019.

3 - - -

4 ALJ SCHABO: Let's go back on the record.

5 MR. VAN KLEY: Thank you, Your Honor.

6 - - -

7 DOUGLAS HERLING

8 being previously duly sworn, as prescribed by law,  
9 was examined and further testified as follows:

10 CROSS-EXAMINATION (Continued)

11 By Mr. Van Kley:

12 Q. Mr. Herling, let's go back to Answer 28  
13 of your Direct Testimony --

14 A. I'm there.

15 Q. -- which talks about whether there's a  
16 potential risk of having substances being released to  
17 the environment as a result of the construction and  
18 operation of the Project.

19 I'd like to refer you to lines 13 and 14  
20 on page 16 of your testimony where it says that "This  
21 includes the Ohio-made solar panels based on cadmium  
22 telluride chemistry." That refers to your prior  
23 sentence which says that solar panels have -- the  
24 suppliers of solar panels have demonstrated that  
25 their products pass U.S. EPA's TCLP procedure, right?

1           A.     Sorry, what was the question?

2           Q.     My question is, I'm just referring you to  
3     lines 13 and 14 -- line 13, I'm sorry, where you  
4     refer to the Ohio-made solar panels. That sentence  
5     refers back to the prior sentence which states that  
6     suppliers of solar panels have demonstrated that  
7     their products pass the TCLP test.

8           A.     Yes.

9           Q.     Right?

10          A.     That's correct.

11          Q.     Now, my question is: Do you know whether  
12     solar panels, made in other States of the United  
13     States, also pass the TCLP test?

14          A.     The Tier 1 solar panels that we have  
15     looked at typically advertise they've passed -- or  
16     that they've gone -- they've performed that test on  
17     their product, yes.

18          Q.     What about other -- what about other  
19     types of solar panels? Do you know whether all of  
20     those other types of solar panels pass the TCLP test?

21          A.     Some might refer to stricter European  
22     standards on content disposal, but I'm not aware that  
23     all solar panels go through that testing.

24          Q.     So there may be other makes of solar  
25     panels that don't pass the TCLP test?

1           A.    There may be other makes of solar panels  
2   that don't perform it.

3           Q.    And, thus, don't know whether they pass,  
4   right?

5           A.    If they didn't perform it, they wouldn't  
6   know if they would pass.

7           Q.    What about panels made outside of the  
8   United States, other than the European panels you  
9   just referred to, do you know whether those panels  
10   meet the TCLP test?

11          A.    Panels that are sold in the United States  
12   would be -- would be doing this test as kind of a  
13   benchmark. It's like a lot of other certifications  
14   or tests that products you use every day would use  
15   where you want to at least hit that standard. So if  
16   it's not sold in the U.S. it probably wouldn't pass  
17   that -- they probably wouldn't try to pass that test.

18          Q.    Well, do you know for a fact that all  
19   foreign-made panels that are sold in the United  
20   States have had tests done on them for TCLP?

21          A.    I don't know that, but in this sentence  
22   we say that suppliers of solar panels, that will be  
23   used for the Project, have demonstrated their  
24   products pass the TCLP.

25          Q.    But your Application doesn't identify

1 which solar panels will be used for the Project, does  
2 it?

3 A. No, that's correct, we've left  
4 flexibility in the Application on the final panel  
5 choice.

6 Q. Moving down to line 22 and line 23 of  
7 Answer 28 on page 16 of your testimony, you have a  
8 sentence in your testimony that says "Finally, I note  
9 that, in recent years, solar panels have become a  
10 common sight around Ohio in general, and in southeast  
11 Ohio in particular."

12 My question to you is: How many other  
13 solar projects, that have been constructed in Ohio,  
14 are of a size of 800 acres of solar panels or larger?

15 A. At this point, in Ohio, there have not  
16 been any solar projects constructed that encompass  
17 800 acres.

18 Q. And your Project here for Angelina is  
19 anticipated to cover how many acres with solar  
20 panels?

21 A. We define -- we define the potential  
22 solar array as 827 acres, but that's not covering  
23 827 acres with solar panels.

24 Q. Were you the first representative of  
25 Angelina Solar to do public outreach in Preble

1 County?

2 A. Could you be more specific about "public  
3 outreach"?

4 Q. Communicating with officials in the  
5 county or with landowners or community leaders in the  
6 county about the Project.

7 A. I was the first to reach out with regard  
8 to elected officials in the county. Other members of  
9 my company reached out earlier to potential  
10 landowners.

11 Q. Okay. Potential landowners who may be  
12 interested in participating in the Project?

13 A. Correct.

14 Q. Okay. Let's talk a little bit about some  
15 of the statements made in the Application. If you  
16 could pull that exhibit out, please. My first  
17 question is going to be on page 13 of the narrative  
18 portion of the Application.

19 I'd like to refer you to the third  
20 paragraph on page 13 of the Application, specifically  
21 to the second-to-the-last and the last lines of that  
22 paragraph where you state that a number of roads may  
23 temporarily be up to 25-feet wide to accommodate  
24 construction activities. Do you see that?

25 A. Yes, I see that.

1           Q.    Okay.  And why do the -- why are the  
2   roads going to be designed to have a width of up to  
3   25 feet?

4           A.    That is to -- that's to allow two-way  
5   traffic and delivery of any oversized Project  
6   components.

7           Q.    If the vehicle carrying the oversized  
8   components is on a road that is 25-feet wide, will  
9   that road also accommodate another vehicle  
10  side-by-side?

11          A.    In the Project Area?

12          Q.    Yes.

13          A.    It may.  If not, then we'd have to direct  
14  traffic within the Project Area to accommodate the  
15  traffic.

16          Q.    Well, how wide is the equipment that's  
17  being transported and that is oversized?

18          A.    We anticipate very few what would be  
19  classed by ODOT as an oversized load.  I believe  
20  that's over 8-1/2 feet wide, but that would primarily  
21  be substation components if anything.

22          Q.    So am I understanding your testimony  
23  correctly to be that any equipment that is 8-foot or  
24  wider would be regarded as an oversized load?

25          A.    I think our transportation expert could

1 probably speak to that better than I can. I don't  
2 know the ODOT regulations as well.

3 Q. Well, how wide is the widest equipment  
4 that will be transported into the Project Area for  
5 construction?

6 A. That will be determined in final design  
7 and based on further consultation with the  
8 interconnecting utility on their requirements.

9 Q. So, at this point, you don't know the  
10 answer to that question?

11 A. The Project is currently in the facility  
12 study phase so that's something happening now. I  
13 don't believe we're required to have the information  
14 at the time of submitting the Application.

15 Q. Go to page 16 of the Application. In the  
16 second paragraph on that page it is stated as  
17 follows: "Prior to the start of construction,  
18 Applicant will submit to the Board for its review  
19 final designs for the Project. These final designs  
20 will address all of the following...." And then,  
21 after those two lines, you see nine items of  
22 components and locations that will be addressed in  
23 the final design, correct?

24 A. Correct.

25 Q. None of the information, that is in



1 Items 1 through 9 on that page, have been included in  
2 the Application?

3 A. In the Application we define the maximum  
4 extent of the area where many of these components  
5 will be located and we have left flexibility for the  
6 kinds of racking and panel technology and exact  
7 location of access roads.

8 We have -- we have located where the  
9 substation will be which is also the termination  
10 point of collection lines throughout the Project.

11 Q. All right. So with regard to Item No. 1,  
12 the Application specifically identifies the location  
13 of the substation; is that right?

14 A. That's correct.

15 Q. And because the collection lines  
16 terminate in the substation, that means that the  
17 Application identifies the termination point?

18 A. Not the exact termination point but that  
19 they terminate at the substation, that is true.

20 Q. For Item No. 2, does the Application  
21 specify the exact location of the collection lines?

22 A. No, it does not. We quantify the impacts  
23 from crossing streams and other features, though.

24 Q. With regard to Item No. 3, does the  
25 Application identify the exact locations of the solar

1 fields?

2 A. We identify the maximum extent of the  
3 locations, but that will be further refined when we  
4 submit the final designs.

5 Q. With regard to Item 4, does the  
6 Application show the orientation, north-south or  
7 east-west, of the arrays within each solar field?

8 A. We do not.

9 Q. With regard to Item 5, does the  
10 Application show the location of the arrays,  
11 collection lines, inverters, and roads within each  
12 solar field?

13 A. It does not show the exact location.

14 Q. With regard to No. 6 of the Application,  
15 does it identify the type of racking that will be  
16 selected?

17 A. We identify the two technologies that  
18 could be used, but we don't specify which at this  
19 time.

20 Q. And with regard to Item No. 7, the  
21 Application doesn't select what solar panel  
22 technology will be used?

23 A. No, we have not. We just say it will be  
24 Tier 1.

25 Q. With regard to Item 8, the Application

1 does not show the location of the access roads within  
2 the Project Area?

3 A. We do not.

4 Q. With regard to Item 9, the Application  
5 does not show the specific component manufacturers  
6 and equipment vendors that will be used?

7 A. No, we don't.

8 Q. Go to page 34 of the Application. I'd  
9 like to refer you to the third paragraph on that  
10 page. That paragraph discusses a complaint  
11 resolution procedure, correct?

12 A. That's correct.

13 Q. And the last sentence of that paragraph  
14 states that "The operator also will be required to  
15 make commercially reasonable efforts to expeditiously  
16 resolve any complaints or concerns." Do you see that  
17 sentence?

18 A. Yes, I do.

19 Q. What's meant by the term "commercially  
20 reasonable efforts" in that sentence?

21 A. I would like to refer to the Stipulation  
22 quickly just to -- I know we stipulated to a number  
23 of items on that.

24 Here, in this sentence that you are  
25 referring to, we're referring to commercially

1 reasonable efforts to expeditiously resolve  
2 complaints.

3 If a certain complaint, if the result of  
4 that is that we need to make a material modification  
5 to something that we're doing, and that could take a  
6 little bit more time, "commercially reasonable" would  
7 refer to we wouldn't be able to do that in as quick a  
8 time frame as "expeditiously" would require.

9 Q. So the term "commercially reasonable"  
10 refers to the amount of time that will be necessary  
11 to resolve the complaint. It doesn't refer to -- it  
12 doesn't mean if it costs a lot to resolve the  
13 complaint that the complaint won't be resolved.

14 A. Yeah, in No. 15, in Condition 15 of the  
15 Stipulation, I believe it's the last sentence in  
16 reference to the report that we would be submitting  
17 to the Staff quarterly, we say "The report should  
18 include a list of all complaints received through the  
19 Applicant's complaint resolution process, a  
20 description of the actions taken toward a resolution  
21 of each complaint, and a status update if the  
22 complaint has yet to be resolved." So I'd say here  
23 that "commercially reasonable efforts" refer to  
24 expeditiously.

25 Q. Okay. Let's go to page 45 of the

1 Application. The first paragraph on that page refers  
2 to a Stormwater Pollution Prevention Plan for erosion  
3 control and storm water management, correct?

4 A. That's correct.

5 Q. Has that plan been prepared at this point  
6 in time?

7 A. That plan has not been prepared. That  
8 would -- that would occur prior to construction once  
9 we're closer to the final design phase.

10 Q. Go to page 49 of the Application. Is  
11 there anything in the Application that quantifies the  
12 amount of solid waste that will be produced by the  
13 construction or operation of this Project?

14 A. Not -- not to my knowledge. Solar  
15 projects generally have minimal solid waste, apart  
16 from some packing materials involved with the  
17 delivery of components to the site.

18 Q. Go to page 78 of the Application, please.  
19 I'd like you to look at the second paragraph on that  
20 page. The second sentence and the third sentence of  
21 that paragraph state "The Project Area includes a  
22 limited number of non-residential, farm-related  
23 structures or partial structures that are old and in  
24 relatively poor condition. In consultation with the  
25 participating land owners, one or more of these

1 additional structures may be removed to facilitate  
2 the Project and put the land to more productive use."

3 Do you see those sentences?

4 A. Yes.

5 Q. So it's possible then that there may be  
6 some buildings that are torn down as part of the  
7 construction of this Project?

8 A. That's correct.

9 Q. And there's no estimate of the quantities  
10 of the waste that would be produced by that  
11 demolition if it occurs in this Application?

12 A. There are not, but it will be relatively  
13 minor. It's a few barns and a small house.

14 Q. A few barns and what?

15 A. A small -- potentially a small house, a  
16 residential structure.

17 Q. You think the amount of waste coming from  
18 tearing those structures down is going to be minor?

19 A. Yes.

20 Q. Go to page 83 of the Application. I'd  
21 like to refer you to the first partial paragraph on  
22 the top of the page.

23 A. I'm there.

24 Q. The sentence says -- that part of the  
25 paragraph states "The analysis also illustrates why

1 the Project will not be visible from the vast  
2 majority of areas even within two miles of the  
3 Project Area. Rather, due to the extremely low  
4 profile of the solar panels and the significant  
5 amount of vegetation in the area, the number of  
6 locations from which the equipment may be visible is  
7 relatively few; the vast majority of these locations  
8 are very close to the equipment."

9 Now, within a half mile of the Project  
10 Area, how much of the -- what percentage of those  
11 areas -- let me start over with the question.

12 The area one half mile outside of the  
13 Project Area, from what percentage of that area will  
14 the occupants be able to see the solar equipment?

15 A. Could you repeat the question?

16 Q. Yeah.

17 From what percentage of the area, within  
18 one half mile of the Project, will the occupants be  
19 able to see the equipment in the Project Area?

20 A. Yeah, let me -- let me refer to the  
21 visual study. I think Matthew Robinson might be able  
22 to better address this tomorrow, but I certainly can  
23 take a look.

24 THE WITNESS: I'm in Exhibit I of the  
25 Application.

1 ALJ SCHABO: Thank you.

2 Q. If it helps you, you can take a look at  
3 page 23 of Exhibit I of the Application.

4 A. Yes, I'm there.

5 So here referring to the DSM viewshed  
6 visibility within a half a mile, up to 82 percent of  
7 that area, I'm approximating, would have potential  
8 visibility of the Solar Project.

9 I'd note that the majority of that area  
10 is open fields, in some cases woodlots. That's not  
11 referring to occupants unless someone were to be  
12 occupying that area.

13 Q. What percentage of the occupants, in the  
14 area within a half mile of the Project, will be able  
15 to see the solar panels?

16 A. I would have to refer to maps. Again,  
17 this solar panel viewshed analysis does not take into  
18 account the mitigation measures that we will be  
19 employing under the Stipulation and in the  
20 Application.

21 Q. Keep your finger on the page in Exhibit I  
22 of the Application and then go down to the paragraph  
23 on page 83 of the Application that is below the  
24 heading of 4906-4-08(D)(1). Do you see that  
25 paragraph?



1           A.    I see that.

2           Q.    The first sentence says "Applicant has  
3 provided the required information, although the  
4 Project will not be visible or audible beyond a  
5 2-mile perimeter."

6                   Now, with regard to the statement in this  
7 sentence that the Project will not be visible beyond  
8 a 2-mile perimeter; based on the information in  
9 Exhibit I, that's not a true statement, is it?

10          A.    I'd like to quickly refer to Figure 18  
11 that's also referenced in that paragraph that you  
12 just referred to.

13                   Can you please repeat the question just  
14 so I am sure?

15          Q.    Yeah.

16                   The statement in the first sentence in  
17 the paragraph on page 83 that we've been discussing,  
18 insofar as it states that the Project will not be  
19 visible beyond a 2-mile perimeter, is inaccurate; is  
20 that right?

21          A.    When viewing those two points in the  
22 Application and in this table, that would appear to  
23 be -- that statement and this number would appear to  
24 disagree, but I would really have to refer you to our  
25 visual expert to explain why. Beyond 2 miles, the

1 visibility of the solar panels will certainly -- why,  
2 past 2 miles, seeing the solar panels would be very  
3 unlikely.

4 Q. Well, according to the information on  
5 page 23 of Exhibit I to the Application, a person  
6 would be able to see the Project equipment from  
7 7.52 percent of the area between 2 and 5 miles  
8 away; isn't that correct?

9 A. That's what the number there says for  
10 sure but, again, I'm not a visual expert and cannot  
11 speak exactly to the methodology here and what that  
12 number means.

13 Q. Go to page 88 of the Application. I'd  
14 like to ask you some questions about the second  
15 paragraph on that page.

16 A. I'm there.

17 Q. I'd like you to go down to a sentence  
18 that starts on the fifth line of that paragraph, and  
19 that sentence reads as follows: "The overall visual  
20 effect from the Project could be considered adverse  
21 only when largely unscreened and viewed in the  
22 immediate foreground (i.e., where the Project occurs  
23 in an open field directly adjacent to a public  
24 road)." Do you see that sentence?

25 A. Yes, I do.

1           Q.    Now, when this sentence refers to a  
2   portion of the Project that's largely unscreened,  
3   what does that mean?

4           A.    To me that means when the Project is not  
5   otherwise obscured by mitigation methods like  
6   planting of vegetation or naturally by existing  
7   structures or existing vegetation being left in place  
8   by the Project.

9           Q.    And the sentence also says that the  
10   "visual effect from the Project could be considered  
11   adverse only when largely unscreened and viewed in  
12   the immediate foreground (i.e., where the Project  
13   occurs in an open field directly adjacent to a public  
14   road)." Go back to Figure 7, Sheet 1 of the  
15   Application.

16          A.    I'm there.

17          Q.    All right. Now, with reference to the  
18   statement about the Project occurring in an open  
19   field directly adjacent to a public road, how much of  
20   the Project Area will be adjacent -- will be in an  
21   open field adjacent to a public road based on  
22   Figure 7, Sheet 1, and Figure 7, Sheet 2?

23          A.    I don't know that we have those  
24   measurements in the Application. I would need to  
25   check if that's a number you're looking for right

1 now.

2 Q. Well, Figure 7 does show fields of solar  
3 panels that are in open fields adjacent to public  
4 roads; isn't that correct?

5 A. Yes, that's correct.

6 Q. In fact, that's rather prevalent  
7 throughout the Project Area; isn't that right?

8 A. The Solar Project certainly has some  
9 areas touching public roads. I'd estimate maybe half  
10 of the frontage of the Project or less.

11 Q. Please go to Joint Exhibit 1 which is the  
12 Joint Stipulation and Recommendations.

13 A. I'm there.

14 Q. All right. There are a number of plans  
15 and other submittals that the recommended conditions,  
16 starting on page 6 of this exhibit, require the  
17 Applicant to provide to the Power Siting Board Staff,  
18 and I'd like to go over those with you in the next  
19 few minutes.

20 So let's start with Condition No. 3 on  
21 page 6 of the Joint Stipulation and Recommendation.  
22 This refers to the detailed engineering drawings of  
23 the final Project design. Those have not been  
24 prepared at this point in time, correct?

25 A. No, they have not.

1           Q.    Go to page 7 of the Stipulation,  
2   Condition 9, the Phase I cultural resources survey  
3   program.  That has not yet been prepared; is that  
4   correct?

5           A.    At this point we have prepared the work  
6   plan for that survey.  That's a seasonal survey.  
7   That typically requires later stage design, so we've  
8   not proceeded with the survey at this point.

9           Q.    Has any of that been submitted to the  
10   Staff?

11          A.    No.  That was -- the work plan was just  
12   completed and I don't believe it's required to be  
13   submitted to the Staff.

14          Q.    And then looking at Condition 9, the  
15   sixth line of Condition 9 refers to a modification or  
16   a mitigation plan.  That has not yet been prepared,  
17   correct?

18          A.    No.  That would require the survey to  
19   have been done.

20          Q.    Condition 11 on page 7 of the Stipulation  
21   refers to a landscape and lighting plan.  Has that  
22   been prepared?

23          A.    The landscape plan is underway.  It's not  
24   complete.

25          Q.    Has it been submitted to the Staff?

1           A.    No, because it's currently -- it's  
2   underway now.

3           Q.    What about the lighting plan, has that  
4   been prepared?

5           A.    The lighting plan has not been prepared.  
6   That requires later stage design and engineering.

7           Q.    And why is that the case?

8           A.    It requires final location of certain  
9   Project components.

10          Q.    According to the Application, the lights  
11   will be installed only on certain equipment in the  
12   Project, right?

13          A.    I have to check the Application, but I  
14   believe that's the case.

15          Q.    And you don't yet know where that  
16   equipment is going to be located, so you can't put --  
17   you can't design a lighting plan to accommodate that.

18          A.    We've indicated that the Project -- that  
19   we haven't reached final design on the Project yet,  
20   so we don't have that plan.

21          Q.    Okay. Condition 12, on page 7 of the  
22   Stipulation, refers to a public information program.  
23   Has that been prepared?

24          A.    It has not.

25          Q.    On page 8 of the Stipulation,

1 Condition 13 refers to the complaint resolution  
2 process. Has that been prepared?

3 A. No, that complaint resolution process has  
4 not yet been prepared.

5 Q. Condition 15 refers to a complaint  
6 summary report that would be due during construction  
7 and operation of the facility, correct?

8 A. Yes, that's correct.

9 Q. Does Angelina Solar intend to provide the  
10 public with access to the complaint summary reports  
11 by placing it on its website or any other means?

12 A. Angelina does not intend to do that.

13 Q. On page 9 of the Stipulation,  
14 Condition 18 refers to a vegetation management plan.  
15 Has that been prepared?

16 A. No, that has not been prepared. That  
17 would require finalizing the landscaping plan and  
18 final design of the Project.

19 Q. Condition 19, on page 9 of the  
20 Stipulation, refers to coordination with the Ohio  
21 Department of Natural Resources and the U.S. Fish and  
22 Wildlife Service with regard to the timing of  
23 removing trees, three inches or greater in diameter,  
24 to avoid impacts to Indiana bats and northern  
25 long-eared bat. Do you see that provision?

1           A.    Yes, I do.

2           Q.    Has any of that consultation with ODNR or  
3   U.S. Fish and Wildlife Service occurred at this point  
4   in time?

5           A.    We have consulted with ODNR and U.S. Fish  
6   and Wildlife Service, not specifically on  
7   construction like removing trees, but we have  
8   consulted with them and that's where we got this  
9   information.

10          Q.    Okay.  So, at this point in time, you  
11   have not had discussions with these agencies about  
12   the timing, the seasonal timing, in which the trees  
13   may be removed?

14          A.    The seasonal timing, I believe, was a  
15   recommendation in the consultation letter.

16          Q.    Go to page 10 of the Stipulation,  
17   page 22.  This condition refers to a construction  
18   access plan.  Has that plan been prepared?

19          A.    That plan has not been prepared.  We've  
20   laid the groundwork for it with our wetland  
21   delineation and habitat assessment of the area.

22          Q.    Condition 23, on the same page of the  
23   Stipulation, refers to a frac-out contingency plan.  
24   Has that plan been prepared?

25          A.    Let me check the Application quickly.



1 Q. Yup.

2 A. Yes, it has.

3 Q. Okay. And that was included in the  
4 Application?

5 A. Yes, it was.

6 Q. In Condition 24, on page 10 of the  
7 Stipulation, it states "The Applicant shall minimize,  
8 to the extent practicable, the clearing of wooded  
9 areas...." Do you have an understanding as to the  
10 meaning of the words "to the extent practicable" as  
11 used in that sentence?

12 A. Yes, I do.

13 Q. What's your understanding?

14 A. That would typically -- as is practical  
15 for the construction and connection of the Project  
16 specifically with regard to collection corridors. If  
17 we're unable to connect another way, then we may need  
18 to clear trees to make a connection. In this case  
19 we've asked for the ability to clear .07 acres of  
20 trees for that purpose because it couldn't be  
21 avoided.

22 Q. And Condition 25, on page 10 of the  
23 Stipulation, there's a reference to a final traffic  
24 plan. Has that plan been prepared?

25 A. That plan has not yet been prepared.

1 Aspects of it are underway though.

2 Q. In Condition 26, there's a reference to a  
3 transportation management plan. Is that the same as  
4 the final traffic plan referenced in Condition 25?

5 A. I believe those plans are related but  
6 separate.

7 Q. Condition 26 also refers to a road use  
8 agreement. Has that agreement been prepared?

9 A. That agreement has been prepared.

10 Q. It has been?

11 A. Yes.

12 Q. Has it been submitted as part of the  
13 Application?

14 A. No. Work on that has been more recent.

15 Q. Go to page 11 of the Stipulation.  
16 There's a reference in Condition 28 on that page that  
17 states that "At least one in-service emergency  
18 training shall be conducted prior to commencement of  
19 construction." Then, two sentences later in the  
20 Condition 28, it states that "In addition, safety  
21 meetings shall be held with emergency service  
22 personnel on an ongoing basis." Do you see those  
23 provisions?

24 A. Yes, I do.

25 Q. Okay. Now, is there a difference between

1 the content of the emergency training that will be  
2 provided prior to the commencement of construction  
3 and the content of the information that will be  
4 provided during the safety meetings after that time?

5 A. I believe those -- the -- they would be  
6 different, I believe. One would be more training and  
7 one would be kind of a periodic refresher of that  
8 training; more of a safety meeting.

9 Q. Have you had any discussions with local  
10 fire or emergency service officials in Preble County  
11 about the amount of turnover that they experience  
12 among their personnel?

13 A. I have met with members of emergency  
14 services and the Director of Emergency Services and  
15 there was no specific mention from them for any  
16 concerns about turnover.

17 Q. Well, in the event that new personnel are  
18 hired by the fire department or EMS providers after  
19 the emergency training has been concluded, is there  
20 anything that you see in this condition that would  
21 require you to provide that same training to new  
22 employees?

23 A. Whether it's volunteer or otherwise,  
24 there's always turnover. I don't -- I believe, from  
25 my experience, that safety meetings would be adequate

1 as the way -- in the way I've described them as kind  
2 of a refresher.

3 Any department is going to constantly be  
4 training their members and the Director will  
5 certainly keep -- the Director of Emergency Response  
6 will certainly keep a record and add to how they  
7 respond, in their general response plans, how to  
8 respond to any incident at the Solar Project; so  
9 yeah, I think we're covered here.

10 Q. Has Angelina Solar prepared an emergency  
11 management plan for its facility?

12 A. We have not at this point.

13 Q. Does Angelina have plans to do so?

14 A. I'd like to quickly refer to the  
15 Application. I believe the answer is yes.

16 Q. I'm sorry, I couldn't hear what you said.

17 A. I'd like to quickly refer to the  
18 Application.

19 Q. Yeah, sure.

20 MR. SETTINERI: Your Honor, could I have  
21 that question reread, please, while we're waiting,  
22 with your permission?

23 ALJ SCHABO: Would you read that back,  
24 please?

25 (Record read.)

1 MR. SETTINERI: Your Honor, can we go off  
2 the record?

3 ALJ SCHABO: We may.

4 (Discussion off the record.)

5 ALJ SCHABO: We'll go back on.

6 A. The answer to your question can be found  
7 on page 55. In the second paragraph it says "Prior  
8 to construction, Applicant will develop an emergency  
9 response plan for fire with potentially affected  
10 local officials and emergency personnel. These will  
11 include personnel specialized in engineering, law  
12 enforcement, fire, medical and ambulance. The  
13 emergency response plan will include information on  
14 the type and location of equipment, potential hazards  
15 (including potential hazards to emergency  
16 responders), locations of access gates, and emergency  
17 contact information."

18 Q. All right. Go back to the Joint  
19 Stipulation, page 11, Condition 29. This Condition  
20 refers to a comprehensive decommissioning plan. Has  
21 that plan been submitted -- has that plan been  
22 prepared?

23 A. That plan has not been prepared, but it  
24 is -- but it is described in detail in the  
25 Application.

1 MR. VAN KLEY: All right. I have no  
2 further questions at this time.

3 ALJ SCHABO: Redirect?

4 MR. SETTINERI: Thank you, Your Honor, I  
5 do.

6 - - -

7 REDIRECT EXAMINATION

8 By Mr. Settineri:

9 Q. Mr. Herling, there was some questions, a  
10 series of questions and answers regarding emergency  
11 medical services and Condition 28 of the Stipulation.  
12 Do you recall those?

13 A. Yes, that's correct.

14 Q. Do you have any experience, yourself, in  
15 emergency medical services?

16 A. Yes, I do. I used to be an EMT and EMTI  
17 and ran operations for a -- for the local volunteer  
18 EMS.

19 Q. And regarding -- there was, I believe, a  
20 question and answer regarding making the complaint  
21 summaries available to the public, and I'm  
22 paraphrasing. Do you recall a couple questions and  
23 answers about that?

24 A. Yes, I do.

25 Q. Do you have any concerns if complaint

1 summaries are made public?

2 A. We do have a concern that if a complaint  
3 summary was made public, that could discourage some  
4 people from making a complaint in the first place.

5 Q. If you could turn to page 83 of the  
6 Application. There was some questions there about a  
7 statement on page 83 and that's the sentence that  
8 states "Applicant has provided the required  
9 information, although the Project will not be visible  
10 or audible beyond a 2-mile perimeter." Do you see  
11 that sentence?

12 A. Yes, I do.

13 Q. Am I correct the second sentence there  
14 states "As discussed above, locations outside of this  
15 two-mile area will not have visibility of the  
16 equipment"?

17 A. Can you say that again?

18 Q. The second sentence states "As discussed  
19 above, locations outside of this two-mile area will  
20 not have visibility of the equipment," correct?

21 A. Correct.

22 Q. Okay. Would you expect someone to be  
23 able to discern the equipment from over 2 miles away  
24 by the naked eye?

25 A. No. Based on the color, texture, and

1 atmospheric effect, I would expect you would not be  
2 able to.

3 Q. And turning to page 16 of the  
4 Application. You were asked some questions about the  
5 list of items that the final design will address. Do  
6 you recall those questions?

7 A. Yes, I do.

8 Q. And that's at page 16 of the Application.  
9 Are you there?

10 A. I'm there.

11 Q. Okay. Figure 2 then is referenced at  
12 that same page?

13 A. Correct.

14 Q. Can you tell me what Figure 2 represents  
15 and also as described in the Application?

16 A. I'll just read directly from the  
17 Application, instead of trying to paraphrase, from  
18 the bottom of page 16, the second-to-last  
19 paragraph -- the last full paragraph.

20 "To illustrate the maximum possible  
21 impact of the Project from any vantage point in the  
22 general area, Figure 2 depicts potential solar array  
23 areas (i.e., the maximum extent of north-south  
24 running arrays using tracking technology with  
25 thin-film panels), the Substation, and representative



1 locations of collection lines, roads, pyranometers,  
2 and construction laydown yards (staging areas)."

3 Q. And the exact locations of facility  
4 structures will be determined through final  
5 engineering?

6 A. That's correct.

7 Q. The fence line for the Project, though,  
8 is determined as set forth in the Application; is  
9 that correct?

10 A. Yes, generally.

11 Q. You were asked some questions about the  
12 PILOT program, correct? Do you recall those?

13 A. Yes, yes.

14 Q. Just for the record, can you explain the  
15 PILOT payments and what those are?

16 A. Sure.

17 The PILOT payments take two forms.

18 There's a -- as part of the PILOT program  
19 there's the \$7,000 per megawatt figure that we  
20 reference in the Application and that's disbursed  
21 based on the actual location of the Project and that  
22 disbursement is based on the millage rates for those  
23 areas.

24 There's a potential additional \$2,000  
25 amount that goes directly to the County General Fund,

1 but the other disbursement of the \$7,000 goes to the  
2 school district, the township, the General Fund, and  
3 one or two other jurisdictions I'm leaving out.

4 Q. And do you have an estimate, of the  
5 \$7,000 payment, what the local school district would  
6 receive?

7 A. We estimate it would be, depending on the  
8 final location of all megawatts in the Project, about  
9 70 percent would go to the school district of the  
10 \$7,000 per megawatt.

11 Q. So if the Project is constructed and the  
12 PILOT is approved, would you expect the school  
13 district to receive more in tax revenue than it does  
14 today?

15 A. Yes; about 11 times more.

16 Q. You were asked many questions about  
17 driving posts. Do you have an estimate for how long  
18 it takes to actually drive a post into the ground?

19 A. Driving the post itself would typically  
20 take under a minute. Most of the time it's just  
21 relocating between posts, relocating the machinery.

22 Q. Do you recall a question about  
23 commercially reasonable efforts to repair drainage?  
24 Do you recall those questions?

25 A. Yes, I do.

1           Q.    Is there a condition in the Stipulation  
2   that addresses drainage?

3           A.    Yes.   Condition 16 addresses drainage.

4           Q.    Were you involved in the negotiation of  
5   the Stipulation?

6           A.    Yes, I was.

7           Q.    Regarding Condition 16, does that require  
8   damaged field tile systems to be repaired?

9           A.    Yes.   If you go about three-quarters of  
10   the way down, Condition 16, on page 8 of the  
11   Stipulation, reads: "Damaged field tile systems shall  
12   be promptly repaired no later than 30 days after such  
13   damage is discovered, and be returned to at least  
14   original conditions or the modern equivalent at the  
15   Applicant's expense."

16          Q.    And that sentence does not include a  
17   commercially reasonable standard, does it?

18          A.    No, it doesn't.

19                MR. SETTINERI:  No further questions,  
20   Your Honor.  Thank you.

21                ALJ SCHABO:  Thank you.

22                First of all, I apologize that I didn't  
23   offer anybody else a chance to cross.

24                Anybody?

25                Okay.

1                   Second, Mr. Van Kley, did you have any  
2 recross?

3                   MR. VAN KLEY: Yes, Your Honor.

4                   ALJ SCHABO: Okay. Proceed.

5                   - - -

6                   RE CROSS-EXAMINATION

7 By Mr. Van Kley:

8                   Q. With regard to your belief that some  
9 people might be discouraged from complaining if their  
10 complaints were made public, isn't it true that it's  
11 a common practice for people, who are complaining  
12 about projects regulated by a government agency, to  
13 make those complaints anonymously?

14                  A. I don't know -- I don't know that that's  
15 the case. I know that if you want to make a comment  
16 on these projects, you cannot do so anonymously; so I  
17 imagine it's similar for a complaint.

18                  Q. Well, what makes you think that a person  
19 cannot complain anonymously about an issue concerning  
20 the Solar Project here?

21                  A. Because that would make it difficult to  
22 follow up and address that complaint.

23                  Q. Well, is there anything that would  
24 prevent somebody from making a telephone call to  
25 Angelina Solar to make a complaint? You can't force

1       them to identify themselves, could you?

2               A.     I guess we can't force someone to  
3       identify themselves, but that certainly makes it  
4       harder if we have follow-up questions about what that  
5       complaint was in the first place.

6               Q.     With regard to your statement concerning  
7       page 83 of the Application. Exhibit I states that  
8       the Project will be visible within more than  
9       7 percent of the Project Area, between 2 and 5 miles  
10      away, correct?

11              A.     Yes, Exhibit I, the DSM model, those  
12      results do state that.

13              Q.     Go to page 16 of the Application. You  
14      were asked about Figure 2. Figure 2 depicts  
15      potential solar array areas and other equipment as  
16      opposed to the actual locations, correct?

17              A.     Yes, that's correct, but the acreage  
18      impacts are what we report and are asked for under  
19      this Application.

20              Q.     So Figure 2 does not commit Angelina  
21      Solar to placing specific equipment in specific  
22      identified locations within the Project Area.

23              A.     It portrays the maximum extent, but it's  
24      not committing us to place a road where it shows a  
25      road, but the layout is used to quantify the maximum

1 impact of the Project.

2 Q. In fact, Figure 2 doesn't even commit  
3 Angelina Solar to using a north-south array for the  
4 panels, correct?

5 A. No, no, it does not, but a north-south  
6 array, versus an east-west array, will take up a  
7 similar amount of space and will still fall within  
8 the maximum permitted footprint.

9 Q. Go back to Condition 16 of the Joint  
10 Stipulation. You were asked about the sentence that  
11 states that damaged field tile systems shall be  
12 promptly repaired no later than 30 days after such  
13 damage is discovered. Is it your understanding that  
14 the period of "no later than 30 days" defines what a  
15 prompt repair would be?

16 A. No. I see "promptly" and "30 days" being  
17 different there.

18 MR. VAN KLEY: Okay. No further  
19 questions.

20 ALJ SCHABO: Mr. Settineri?

21 MR. SETTINERI: Thank you, Your Honor.  
22 No further questions.

23 ALJ SCHABO: All right. You may step  
24 down.

25 THE WITNESS: Thank you.

1 ALJ SCHABO: Are we ready for our next  
2 witness?

3 MR. SETTINERI: Yes, Your Honor. At this  
4 time we would like to move, though, into the record  
5 and evidence, Company Exhibit 1, Company Exhibit 1C,  
6 Company Exhibit 2C, Company Exhibit 3, Company  
7 Exhibit 4, Company Exhibit 5, Company Exhibit 6,  
8 Mr. Herling's Direct Testimony, Company Exhibit 7,  
9 his Supplemental Testimony, as well as Joint  
10 Exhibit 1, the Joint Stipulation and Recommendation  
11 that's been marked.

12 ALJ SCHABO: Are there any objections to  
13 the admission of any of those exhibits?

14 MR. VAN KLEY: We object to the extent we  
15 objected in our motion to strike but, otherwise, we  
16 don't object.

17 ALJ SCHABO: Anybody else?

18 All right. Subject to the motions to  
19 strike, none of which were granted, the exhibits will  
20 be admitted.

21 MR. SETTINERI: Your Honor, I don't know  
22 if there was an objection to those coming into the  
23 record, but we would just simply note that the motion  
24 to strike was fully vetted and discussed, as well as  
25 the Concerned Citizens, Mr. Van Kley's clients, have

1 had the full opportunity to cross Mr. Herling today,  
2 and he responded to almost every question asked.

3 ALJ SCHABO: Yes.

4 They'll be admitted.

5 (EXHIBITS ADMITTED INTO EVIDENCE.)

6 ALJ SCHABO: We have Mr. Waterhouse or  
7 Mr. Bonifas next?

8 MR. SETTINERI: Mr. Waterhouse. We'd  
9 like to call Noah Waterhouse to the stand, please.

10 ALJ SCHABO: Good afternoon.

11 (Witness sworn.)

12 ALJ SCHABO: Thank you. Have a seat.

13 State your name and your business address  
14 for the record, please.

15 THE WITNESS: Noah Waterhouse. 10025  
16 Valley View Road, Suite 140, Eden Prairie, Minnesota  
17 55344.

18 MR. SETTINERI: Your Honor, at this time,  
19 I'd like to mark two exhibits. Company Exhibit 8,  
20 we'd like to mark the Direct Testimony of Noah  
21 Waterhouse.

22 ALJ SCHABO: So marked.

23 (EXHIBIT MARKED FOR IDENTIFICATION.)

24 MR. SETTINERI: Company Exhibit 9, the  
25 Supplemental Direct Testimony of Noah Waterhouse.



1 ALJ SCHABO: So marked.

2 (EXHIBIT MARKED FOR IDENTIFICATION.)

3 - - -

4 NOAH WATERHOUSE

5 being first duly sworn, as prescribed by law, was  
6 examined and testified as follows:

7 DIRECT EXAMINATION

8 By Mr. Settineri:

9 Q. Good afternoon, Mr. Waterhouse.

10 A. Good afternoon.

11 Q. Do you have before you what's been marked  
12 as Company Exhibit 8 and Company Exhibit 9?

13 A. I do.

14 Q. Can you identify Company Exhibit 8 for  
15 the record, please?

16 A. This is my Direct Testimony.

17 Q. And can you also identify for the record  
18 what's been marked as Company Exhibit 9?

19 A. This is my Supplemental Direct Testimony.

20 Q. And in regards to both pieces of  
21 testimony, were those prepared by you or at your  
22 direction?

23 A. They were.

24 Q. And are you testifying on behalf of  
25 Angelina Solar I, LLC today?

1 A. I am.

2 Q. And do you have any changes or revisions  
3 to your testimony at this time?

4 A. No.

5 Q. And if I was to ask you the questions in  
6 Company Exhibit 8, would your answers be the same  
7 today?

8 A. Yes.

9 Q. And if I was to ask you the questions in  
10 Company Exhibit 9 today, would your answers be the  
11 same?

12 A. Yes.

13 MR. SETTINERI: Thank you.

14 Your Honor, at this time, the witness is  
15 available for cross-examination.

16 ALJ SCHABO: Mr. Van Kley.

17 MR. VAN KLEY: Thank you, Your Honor.

18 - - -

19 CROSS-EXAMINATION

20 By Mr. Van Kley:

21 Q. Mr. Waterhouse, I'd like to go over a few  
22 things in your Direct Testimony, starting on page 2,  
23 Answer 5. In Answer 5, you refer to a Drain Tile  
24 Assessment that your firm will complete on behalf of  
25 the Applicant. Has that assessment been prepared?

1           A.    The beginning of that assessment has been  
2 prepared.

3           Q.    It's not finished?

4           A.    So the full assessment requires  
5 fieldwork, but the beginning stages of a Drain Tile  
6 Assessment includes desktop analysis, coordination  
7 with landowners, and making a site visit.

8                   All of those aspects of the Drain Tile  
9 Assessment have been completed and the next step  
10 would be to take that information and determine what  
11 additional levels of exploration are required in the  
12 field. That field exploration has not yet been  
13 completed.

14          Q.    Has any part of your Drain Tile  
15 Assessment, to the extent that it is complete, been  
16 submitted to the Staff of the Board?

17          A.    I'm not aware of what has been submitted.  
18 I've provided the information, that I've prepared, to  
19 the Applicant.

20          Q.    With respect to the consultation that you  
21 have done with landowners, have you done any such  
22 consultation with landowners who are not  
23 participating in the Solar Project?

24          A.    We have not yet done that. We have done  
25 investigation with landowners within the Project Area

1 at this point. Moving forward, the additional  
2 investigation will be dependent upon the further  
3 steps that we intend to take based on what the  
4 information is that we've gathered so far.

5 Q. In cases where you find that there may be  
6 tiles that originate in the Project Area but also  
7 flow across lands owned by nonparticipating  
8 landowners, do you have plans to consult with those  
9 landowners?

10 A. It depends on if you mean upstream or  
11 downstream. Our primary concern is to make sure that  
12 any drain tile that originates on an adjacent  
13 property and flows onto the Project property remain  
14 functional so the upstream tiles would be not  
15 affected. In those cases we would want to know as  
16 much information as possible about the location of  
17 those tiles and we would intend to consult with those  
18 landowners to find out what information they can give  
19 us.

20 Q. All right. With respect to the  
21 nonparticipating landowners who are downgradient from  
22 the Project Area, you don't have any plans to consult  
23 with them in your study?

24 A. I can't say that we absolutely wouldn't.  
25 It would depend on what the site-specific conditions

1 are and what we find from the rest of our Drain Tile  
2 Assessment, but typically that is a lower priority  
3 than the upstream adjacent landowners.

4 Q. Are you aware that in the farming  
5 community in Preble County that it is a common  
6 practice for landowners, whose land is drained by a  
7 common tile, to consult with each other with respect  
8 to any tile repairs or replacements that may be  
9 necessary?

10 MR. SETTINERI: I just object. Lack of  
11 foundation as to the practice. The question is  
12 premised as that practice does exist. Maybe it can  
13 be rephrased.

14 MR. VAN KLEY: No, I asked him whether he  
15 was aware that it does exist.

16 MR. SETTINERI: My objection stands.

17 ALJ SCHABO: I understand your objection.  
18 We'll give some leeway here.

19 You can answer the question.

20 THE WITNESS: Could you restate the  
21 question?

22 MR. VAN KLEY: Yeah. I'll slightly  
23 revise it.

24 Q. (By Mr. Van Kley) Do you know whether  
25 there is a common practice, in the area of Preble

1 County near the Project Area, for farmers, whose land  
2 is traversed by common tiles, to consult with each  
3 other prior to repairing or replacing any portions of  
4 those tiles?

5 A. I don't have any information specifically  
6 about landowner interactions with each other.

7 Q. Let's go to Answer 9, starting on page 3  
8 of your testimony. The sentence that starts at the  
9 bottom of that page and goes to the next page reads  
10 as follows: "The construction period for the Project  
11 should be long enough for an ample number of rain  
12 events to reveal any locations in which tile was  
13 damaged but not immediately discovered and repaired."  
14 Do you see that?

15 A. Yes.

16 Q. Do you know whether the construction  
17 period for this Project will include the summer  
18 season?

19 A. I don't know the exact schedule, but  
20 based on similar projects, similar size, I would  
21 expect that the duration would be significantly long  
22 enough to include at least one spring and summer  
23 season.

24 Q. Okay. And if the summer is a dry one, it  
25 may take longer for rain events to reveal locations

1 where tiles were damaged; is that correct?

2 A. What do you mean specifically by "dry"?  
3 Where there's no rain at all?

4 Q. Well, where there's no rain at all or  
5 minimal rain.

6 A. I'm sorry, what was the question exactly?

7 Q. If the construction period includes a  
8 time period where there is little or no rain, you  
9 would not expect tile damage to be readily apparent  
10 during those periods; isn't that correct?

11 A. The evidence that we look for, for tile  
12 damage, does rely on some amount of rainfall, but I  
13 wouldn't expect there to be such an extended period  
14 of no rainfall, during a project of this size, that  
15 we wouldn't be able to see some evidence of that  
16 damaged tile.

17 Q. And what kind of evidence would you look  
18 for?

19 A. Typically we're looking for either water  
20 flowing out of the ground where there isn't supposed  
21 to be, or water ponding where we would expect it to  
22 be going into the ground based on our understanding  
23 of the drain tile network.

24 Q. Are you aware of instances in which drain  
25 tiles are damaged but the damage is not extensive

1 enough to prevent the tile from moving water  
2 underground?

3 A. I'm not aware of any specific instances  
4 of that in my experience, but I do imagine that that  
5 is possible.

6 Q. In fact, it's possible that a drain tile  
7 can have a hole placed into it that allows silt to  
8 wash into the tile without the tile immediately  
9 backing up; isn't that true?

10 A. I think that does occur with drain tile  
11 regularly.

12 Q. So, in instances where a tile may be  
13 damaged and may allow silt to get into the tile,  
14 depending on how much silt gets into the tile right  
15 away, it may be some time period before that tile  
16 fills up with silt and stops allowing the water to  
17 flow through the tile; isn't that correct?

18 A. Hypothetically speaking, I guess that is  
19 possible.

20 Q. In fact, isn't it true that sometimes  
21 tile damage is not detected for up to a year after it  
22 occurs?

23 A. I've not had that experience.

24 Q. Okay. Did you, by chance, review the  
25 filed Direct Testimony of the Preble County Engineer



1 in this case?

2 A. I did not.

3 Q. Let's go to Answer 8 in your Supplemental  
4 Direct Testimony.

5 Before we go to that answer, let me ask  
6 you another question about tile drainage. You've --  
7 have you obtained any tile maps from any local  
8 government officials in Preble County?

9 A. Yes, I have.

10 Q. Okay. Now, have those maps identified  
11 all of the tiles that are included in the Project  
12 Area?

13 A. It's -- we've gotten two sources -- three  
14 sources of drain tile maps that we've received so far  
15 from landowners, from the County Engineer, and from  
16 the Preble Soil District.

17 Those are the extent of -- to the extent  
18 that we would guarantee that's every tile that exists  
19 in the Project Area, that's not realistic for us to  
20 say that's every tile. That's why we -- that's why  
21 we continue on with our Drain Tile Assessment beyond  
22 the mapping that we've received to date, utilizing  
23 all of the other factors included in my testimony  
24 that are methods we use to look for existing drain  
25 tile.

1 Q. Do you have any background in farming?

2 A. I have not been employed as a farmer if  
3 that's what you mean. I have been around farming.  
4 To what extent you mean "background," I have  
5 knowledge of farming. I've not been a farmer myself.

6 Q. Did you grow up on a farm?

7 A. I did not.

8 Q. Have you ever been to a farm?

9 A. I have been to many farms.

10 Q. Have you lived on a farm?

11 A. I have not lived on a farm.

12 Q. You've never cultivated a field?

13 A. On small scales, yes, I have cultivated  
14 fields.

15 Q. Okay. Is that just gardening?

16 A. Yes.

17 Q. Have you -- now, do you -- do you  
18 personally repair tile?

19 A. I do not personally repair tile. I have  
20 witnessed it done in the field.

21 Q. So based on your answers to my questions  
22 about your farming experience, you would not know  
23 whether a farm crop would be damaged or killed if it  
24 was standing in water for more than 24 to 48 hours?

25 A. I wouldn't be able to tell you the exact

1 number. Living in an agricultural community, I've  
2 observed crop damage from standing water most  
3 seasons, but I wouldn't be able to tell you the exact  
4 number of hours or days.

5 Q. All right. Now, let's go back to your  
6 Supplemental Testimony, Answer 8. I'm sorry, I'm  
7 going to ask you about Answer 7 which starts on  
8 page 2 of your Supplemental Testimony and goes into  
9 page 3. The last paragraph, that starts on page 2  
10 and flows over into page 3, talks about a Stormwater  
11 Pollution Prevention Plan, correct?

12 A. Yes.

13 Q. And that plan is also known by the  
14 acronym "SWPPP"?

15 A. Yes.

16 Q. In fact, you use that acronym here in  
17 your testimony, correct?

18 A. Yes.

19 Q. Now, the SWPPP, as you indicate, is a  
20 requirement of the Ohio EPA construction stormwater  
21 general permit that the Project will require, right?

22 A. Correct.

23 Q. Angelina Solar's application for coverage  
24 under this permit has not yet been submitted; is that  
25 right?

1           A.     That's correct.

2           Q.     And at the time that the application is  
3 submitted to Ohio EPA, it's your understanding that  
4 the SWPPP has to be prepared by that time, correct?

5           A.     Yes, that's correct. At the time that  
6 you apply for coverage under that permit, a SWPPP has  
7 to be prepared.

8           Q.     And that SWPPP is a document that has to  
9 be posted at the construction site for Ohio EPA  
10 inspectors to review?

11          A.     That is correct.

12          Q.     Now, what is the contents of a typical  
13 SWPPP?

14          A.     It's a combination of narrative, design  
15 plans, and exhibits, with the general purpose of  
16 describing and detailing how the contractor is going  
17 to avoid releasing sedimentation, sediment, and  
18 erosion control from the Project site.

19          Q.     And the SWPPP would include drawings  
20 depicting any structures that will be used to reduce  
21 the erosion of dirt from the construction site?

22          A.     Yes. It would have details on all best  
23 management practices used to prevent that  
24 sedimentation.

25          Q.     And those best management practices could

1 include silt fences, for example?

2 A. It could.

3 Q. It also could include retention basins?

4 A. It could.

5 Q. And the purpose of those best management  
6 practices would be to trap dirt that otherwise would  
7 run into surface waters?

8 A. Yes. It's to maintain soil stability and  
9 keep any sediment from leaving the construction site.

10 Q. And the SWPPP would include data  
11 concerning the Project that would be used to design  
12 these BMPs?

13 A. Yes.

14 Q. In order to prepare a SWPPP, it would be  
15 necessary to figure out how much surface water flow  
16 would be expected to leave the construction site?

17 A. Yes, that's correct.

18 Q. Because, otherwise, you don't know how to  
19 size your BMPs, right?

20 A. That's correct. As part of the  
21 calculations for designing and sizing BMPs, we would  
22 run some kind of hydrology and hydraulics model.

23 Q. Has anything been done at this point in  
24 time to figure out whether the Angelina Solar Project  
25 will increase the flow of surface water into streams

1 in the area?

2 A. Yeah. Our visual inspection of the  
3 Project Area to confirm that most of the Project Area  
4 is currently used for cultivated farming, with the  
5 understanding that the ultimate project conditions  
6 will convert that bare farmland to vegetation, tells  
7 us that that change in land use will result in a  
8 reduction of stormwater runoff.

9 So even without doing calculations, we  
10 know that a typical project of this nature will  
11 ultimately see a reduction of runoff, not an  
12 increase, based on that change in land use.

13 Q. But, during construction, the vegetation  
14 will not yet have been planted in the Project Area,  
15 correct?

16 A. At some point in time, during  
17 construction, vegetation will be planted.

18 Q. At what point in the construction will  
19 that occur?

20 A. Well, it's phased throughout  
21 construction. Typically, when an area is done being  
22 constructed, then vegetation is planted. So there  
23 isn't really one specific point in time when  
24 vegetation is planted. It's a site-specific,  
25 project-specific process.

1           Q.    So the solar panels would have to be  
2   installed prior to planting the field in which the  
3   solar panels are installed, correct?

4           A.    Not necessarily.  It depends on -- again,  
5   it depends on the phasing, but there could be a  
6   scenario where the ground is done being disturbed by  
7   either work or pile driving and trenching and is  
8   ready to be stabilized and the modules might not have  
9   even been installed yet, and you could potentially be  
10   able to phase that in a way where you would put your  
11   seed down and any other sterilization and then put  
12   the modules in.

13          Q.    For the Angelina Solar Project, when  
14   would you expect grass to be planted or any other  
15   vegetation to be planted in the Project Area?

16          A.    That's a final design decision and so I  
17   don't know the answer to that for Angelina  
18   specifically.

19          Q.    The construction stormwater general  
20   permit is a water pollution discharge permit, right?

21          A.    That's correct.

22                MR. VAN KLEY:  I have no further  
23   questions.

24                ALJ SCHABO:  Any other Intervenors have  
25   cross?

1 MS. WEST: No, Your Honor.

2 MS. MILAM: No, Your Honor.

3 MS. BAIR: No.

4 ALJ SCHABO: Mr. Settineri.

5 MR. SETTINERI: Just a few questions.

6 - - -

7 REDIRECT EXAMINATION

8 By Mr. Settineri:

9 Q. Mr. Waterhouse, you were asked a lot of  
10 questions about tile and answers about tile. When we  
11 talk about tile, what types of tile do we have here?

12 A. We classify tiles into a main, which  
13 would be a tile that is more of a trunk that serves  
14 other drain tiles; then we refer to laterals or  
15 pattern tile and those would be tiles that would  
16 generally connect only to other mains or directly  
17 off-site to surface conditions.

18 Q. And are mains readily identifiable?

19 A. They are easier to identify than  
20 laterals, yes. Typically they're readily  
21 identifiable.

22 Q. In your experience, do landowners know  
23 where the mains are located on their properties?

24 A. That is typically the case.

25 Q. You were also asked some questions



1 about -- a series of questions about different things  
2 that relied on your experience, such as questions  
3 about planting, your background, questions about  
4 farming. Let me ask you this: Specific to Ohio, do  
5 you have experience with solar projects in Ohio,  
6 besides Angelina?

7 A. I do. I have worked on two projects.  
8 One was the Bowling Green Solar Project, a  
9 20-megawatt project near Bowling Green, where I was  
10 the engineer of record, and that had an extensive  
11 network of drain tile on it. Another project was a  
12 100-plus megawatt project, that I can't disclose the  
13 name of, but is in Ohio.

14 Q. And I think in one of your answers you  
15 used the phrase that you worked on similar projects  
16 of similar size. Have you worked on projects,  
17 outside of Ohio, that are similar to this Project in  
18 size?

19 A. Yup. I've worked on more than 15  
20 projects that are greater than 50 megawatts; some at  
21 upwards of 250 megawatts outside of Ohio. I would  
22 say half of those have had drain tile networks.

23 Q. And in what States, to the extent you  
24 can, what States were some of those projects located  
25 in?

1           A.     Sure.  I've worked on similar projects in  
2     Minnesota, South Dakota, Illinois, Georgia, Texas,  
3     and Nevada.

4                     MR. SETTINERI:  No further questions.

5                     Thank you, Your Honor.

6                     ALJ SCHABO:  Any redirect -- I'm sorry,  
7     recross?

8                     MR. VAN KLEY:  Yes, Your Honor.

9                             - - -

10                    RE CROSS-EXAMINATION

11     By Mr. Van Kley:

12            Q.     Sometimes lateral tiles will start in one  
13     person's land and go into another person's land;  
14     isn't that correct?

15            A.     That is a possibility.

16            Q.     For these tile projects related to other  
17     solar facilities that you've worked on, how many of  
18     those projects have you worked on after the Project  
19     was constructed?

20            A.     Can you define "worked on"?

21            Q.     Yeah.  After -- my question is on how  
22     many projects, on how many solar projects have you  
23     worked on drainage tile issues where those solar  
24     projects were already constructed?

25            A.     I guess I'm not sure that I understood

1 the question, but I've had -- so every project that I  
2 work on, if there was an issue after the Project, I  
3 would still be required to provide my expertise.  
4 I've had one project with a drain tile network where,  
5 after construction was completed, we engaged in some  
6 additional design effort specifically related to that  
7 drain tile network.

8 Q. And what was the nature of the work that  
9 you did on that project?

10 A. We provided consultation to the  
11 contractor and the owner to determine what was the  
12 likely source of some unexpected drainage conditions  
13 on that Project Area.

14 Q. Other than that project, have you worked  
15 on drain tile tasks on any other operating solar  
16 facility?

17 A. No, not at this point, we haven't had any  
18 projects with drain tile networks that have had any  
19 issues post-construction that required my services.

20 Q. At least to the extent you were told,  
21 right? You don't -- you don't typically inspect  
22 those solar projects, after they're built, to  
23 determine whether drain tile issues have been  
24 detected.

25 A. No, I do not provide O&M services on

1 projects.

2 MR. VAN KLEY: I have no further  
3 questions.

4 ALJ SCHABO: One?

5 MR. SETTINERI: Just one follow-up.

6 - - -

7 FURTHER REDIRECT EXAMINATION

8 By Mr. Settineri:

9 Q. You mentioned there was one project that  
10 your services were enlisted post-construction, I  
11 believe. Did you determine the source, whether the  
12 source of the drainage issue was project related or  
13 off site?

14 A. We determined that the source of the  
15 problem was off site.

16 Q. And would it be your expectation that if  
17 a project that you had worked on, meaning your  
18 company had worked on, had a drainage issue, that  
19 your company -- that the project owner would be  
20 reaching out to your company to discuss that?

21 A. Yes, that is --

22 MR. VAN KLEY: Objection.

23 A. -- absolutely an expectation.

24 MR. VAN KLEY: Objection. It's  
25 speculative. It calls for a speculative conclusion.

1 ALJ SCHABO: Can you read the question  
2 again?

3 (Record read.)

4 ALJ SCHABO: You may have answered but I  
5 didn't hear you, and the objection is overruled, and  
6 you can answer that.

7 A. Yes, I would expect that they would reach  
8 out to me.

9 Q. And that's because they paid your company  
10 for services?

11 A. That's correct.

12 MR. SETTINERI: No further questions.

13 MR. VAN KLEY: Nothing further.

14 ALJ SCHABO: Okay. Mr. Settineri.

15 MR. SETTINERI: Your Honor, at this time,  
16 we would move into the record, Company Exhibit 8, the  
17 Direct Testimony of Noah Waterhouse, as well as  
18 Company Exhibit 9, the Supplemental Direct Testimony  
19 of Noah Waterhouse.

20 ALJ SCHABO: Are there any objections?

21 MR. VAN KLEY: No, Your Honor.

22 MS. BAIR: No, Your Honor.

23 ALJ SCHABO: All right. Hearing none,  
24 they will be admitted.

25 (EXHIBITS ADMITTED INTO EVIDENCE.)

1 ALJ SCHABO: Mr. Waterhouse, you may step  
2 down.

3 Mr. Van Kley, what is your cross estimate  
4 on the third Company Witness, Mr. Bonifas?

5 MR. VAN KLEY: I'd say about a half hour.

6 ALJ SCHABO: Okay. If we were to take a  
7 15-minute break, does that give everybody time to  
8 make their flights, et cetera?

9 MR. SETTINERI: Mr. Bonifas, the good  
10 news is, only has to drive up 315.

11 ALJ SCHABO: I'd might rather take a  
12 flight at this point.

13 (Laughter all around.)

14 ALJ SCHABO: Let's go ahead and take a  
15 15-minute break. Let's go off the record.

16 (Recess taken.)

17 ALJ SCHABO: Let's go back on the record.  
18 Mr. Taylor.

19 MR. TAYLOR: Thank you, Your Honor. The  
20 Applicant would like to call Mr. Mark Bonifas.

21 ALJ SCHABO: Good afternoon. Would you  
22 raise your right hand.

23 (Witness sworn.)

24 ALJ SCHABO: Thank you. You may have a  
25 seat. If you'd state your name and business address

1 for the record, please.

2 THE WITNESS: Mark Bonifas. 6397 Emerald  
3 Parkway, Dublin, Ohio.

4 MR. TAYLOR: Your Honor, I'd like to  
5 begin by marking a pair of exhibits.

6 ALJ SCHABO: Okay.

7 MR. TAYLOR: Company Exhibit 10 is the  
8 Direct Testimony of Mark Bonifas.

9 ALJ SCHABO: So marked.

10 (EXHIBIT MARKED FOR IDENTIFICATION.)

11 MR. TAYLOR: And Company Exhibit 11 is  
12 the Supplemental Direct Testimony of Mark Bonifas.

13 ALJ SCHABO: So marked.

14 (EXHIBIT MARKED FOR IDENTIFICATION.)

15 - - -

16 MARK BONIFAS

17 being first duly sworn, as prescribed by law, was  
18 examined and testified as follows:

19 DIRECT EXAMINATION

20 By Mr. Taylor:

21 Q. Mr. Bonifas, could you please identify  
22 what's been marked as Company Exhibit 10.

23 A. It's my Direct Testimony.

24 Q. And was that prepared by you or at your  
25 direction?

1 A. Yes.

2 Q. And could you please identify what's been  
3 marked as Company Exhibit 11, please.

4 A. It's my Supplemental Direct Testimony.

5 Q. And was that also prepared by you or at  
6 your direction?

7 A. Yes.

8 Q. And do you have any revisions or  
9 corrections to either Company Exhibit 10 or Company  
10 Exhibit 11?

11 A. No.

12 Q. And if I asked you the questions in  
13 Company Exhibit 10 and Company Exhibit 11 today,  
14 would your answers be the same?

15 A. Yes.

16 MR. TAYLOR: Your Honor, Mr. Bonifas is  
17 available for cross-examination.

18 ALJ SCHABO: Mr. Van Kley.

19 MR. VAN KLEY: Thank you, Your Honor.

20 - - -

21 CROSS-EXAMINATION

22 By Mr. Van Kley:

23 Q. Mr. Bonifas, I want to ask you some  
24 questions related to Answer 7 of your Direct  
25 Testimony which is Company Exhibit 10 and, in



1 conjunction with those questions, I'm going to refer  
2 you to information in Exhibit D of the Application  
3 which should be in front of you.

4 A. Okay.

5 Q. All right. Answer 7 on page 3 of your  
6 Direct Testimony states, in the first sentence, as  
7 follows: "It concluded that the roads and bridges  
8 generally were in good condition, that they are of a  
9 type and width sufficient to accommodate the  
10 deliveries for the construction of the Project, and  
11 that no major repairs or upgrades are needed for  
12 construction."

13 So I wanted to ask you some questions  
14 about the sizes of the roads in the area as well as  
15 the sizes of the loads in the area. So let's start  
16 on page 3 of Exhibit D of the Application. You tell  
17 me when you've found that page.

18 A. I'm there.

19 Q. All right. Now, Table 1 on page 3 of  
20 Exhibit D in the Application is labeled "Roadway  
21 Characteristics," right?

22 A. Correct.

23 Q. And these are characteristics that you  
24 found in the roads near the Project Area, right?

25 A. That's correct.

1           Q.    There's a column that is labeled  
2 "Pavement Width" and that's in feet, correct?

3           A.    Correct.

4           Q.    And that column identifies how wide the  
5 roads in the Project Area are, correct?

6           A.    Correct.

7           Q.    And the width of those roads ranges  
8 between 13-feet and 17-feet wide, correct?

9           A.    Correct.

10          Q.    Now, are you aware that in the course of  
11 constructing this Project that some of the equipment  
12 for the construction will be oversize?

13          A.    I am.

14          Q.    And your report, in fact, makes some  
15 references to oversize deliveries, right?

16          A.    Yes.

17          Q.    Now, how did you define, for purposes of  
18 your report, what would be considered to be oversize?

19          A.    An oversize vehicle is a vehicle that  
20 does not meet the legal dimensions established by  
21 ODOT. Legal dimensions being a width of 8-1/2 feet,  
22 a height of 13-1/2 feet, and a length of 85 feet.

23          Q.    What are the dimensions of the oversize  
24 equipment that will be used in this Project?

25          A.    I don't have that information. That

1 would be determined in final design or after final  
2 design and when the transportation plan is put  
3 together.

4 Q. Have you had any experience with other  
5 solar projects in which you have determined the width  
6 of the equipment used for construction of those  
7 projects?

8 A. We have constructed other solar projects  
9 or I've been involved in projects that have been  
10 constructed, but each project is different.

11 Q. Okay. What were the approximate widths  
12 of the equipment brought in for the other projects  
13 for which you were involved?

14 A. I don't recall the exact dimensions.  
15 They would have been oversize, meaning they would  
16 have been something larger than 8-1/2 feet, but  
17 typically, you know, something you would normally see  
18 on an oversize load going down the highway on any  
19 kind of escorted vehicle.

20 Q. Based on the width of the roads that are  
21 listed in Table 1 on page 3 of the Application,  
22 Exhibit D, do you expect that there will be oversize  
23 equipment using these roads that will take up more  
24 than half of the width of these roads?

25 A. Well, as an example, by definition if

1 it's an oversize load, it would be larger than  
2 8-1/2 feet. So if you look at State Line Road, a  
3 portion of that road is 15-feet wide, so the answer  
4 would be yes.

5 Q. And the portion of Campbell Road, listed  
6 in Table 1, is 13-feet wide, right?

7 A. Correct.

8 Q. So the same would be true of that road?

9 A. Correct.

10 Q. And if the road is 17-feet wide, as shown  
11 for four of these roads, any equipment that has an  
12 oversize width would be wider than the midway point  
13 of the road, right?

14 A. That's correct.

15 Q. Go to page 7 of Exhibit D of the  
16 Application.

17 A. Okay.

18 Q. In the first paragraph of Section 3.1 on  
19 that page it is stated in the last line that there  
20 may be an estimated 1,700 to 1,800 vehicles for the  
21 Project. Do you see that?

22 A. Yes.

23 Q. Now, not all of those are going to be  
24 oversize, right?

25 A. That's correct.

1 Q. Okay.

2 A. The oversize loads for a solar project  
3 would typically be a very small percentage of the  
4 total vehicles.

5 Q. Have you calculated the percentage of  
6 total vehicles that will be -- that will constitute  
7 oversize loads?

8 A. No. That would be dependent upon final  
9 design.

10 Q. Have you determined the time of the day  
11 that these vehicles will be using the roads in the  
12 Project Area?

13 A. That wasn't part of the study. That  
14 would be determined, you know, prior to construction.

15 Q. So you don't know whether the presence of  
16 construction vehicles or vehicles that deliver  
17 equipment for the construction will be using the  
18 roads during the busiest times, the busiest traffic  
19 times of the day?

20 A. What are the busiest traffic times?

21 Q. Well, assuming for purposes of this  
22 question, rush hour during the morning and rush hour  
23 during the evening.

24 A. It's possible. A typical -- again, the  
25 construction schedule hasn't been defined for this

1 Project, but I would imagine a typical schedule for  
2 construction, a workday would be 7:00 a.m. to 4:00 or  
3 5:00 in the afternoon.

4 Q. Do you know what time equipment  
5 deliveries typically occur for a solar project?

6 A. That would be dependent upon final design  
7 and the transportation plan.

8 Q. Now, you're aware this is a farming  
9 community --

10 A. Yes.

11 Q. -- located near the Project Area?

12 A. Yes.

13 Q. All right. And you're aware that in a  
14 farming community it is common for the farmers to use  
15 the public roads to move their equipment from field  
16 to field?

17 A. Yes.

18 Q. And you're aware that during planting and  
19 harvesting seasons there's more farm equipment moved  
20 than occurs during the rest of the year?

21 A. Yes.

22 Q. And are you aware that the farming  
23 equipment itself sometimes is oversize as you've  
24 defined that term?

25 A. In some cases, yes.

1           Q.    So, in some cases, there's not going to  
2   be enough room on these roads for an oversize load of  
3   construction materials to pass by farm equipment at  
4   the same location going opposite directions, right?

5           A.    When an oversize load -- first of all, an  
6   oversize load would need to get a permit, through  
7   ODOT, to transport that load and that permit would  
8   require there to be a route evaluated for that, a  
9   specified route. The oversize loads, depending on  
10  the size, would need to have escort vehicles and  
11  potentially other means of traffic control like  
12  flagging.

13                       So if an oversize load, for the Project,  
14  were to encounter a piece of farm equipment at the  
15  same time, that should be avoided by the traffic  
16  plan, the escort vehicle, and the flagging.

17           Q.    How could it be avoided by the traffic  
18  plan?

19           A.    First of all, when they're moving an  
20  oversize load down the road, they're going to have a  
21  flagger go ahead and make sure the road is clear and  
22  they'll go to the next intersection and they'll hold  
23  traffic up until that vehicle gets to that point and  
24  then they'll leapfrog to the next intersection.

25           Q.    So if a farmer needs to move planting

1 equipment, for example, on a road and the flagger has  
2 already shut down that road to traffic to allow an  
3 oversize load of construction materials to use that  
4 road, then the farmer would have to wait for the  
5 construction equipment to come through that segment  
6 of the road.

7 A. That's correct, but it would typically be  
8 a very short duration. It's just the time to move  
9 the truck down the road.

10 Q. The traffic plan for the Angelina Project  
11 has not yet been prepared; is that correct?

12 A. That's correct.

13 MR. VAN KLEY: I have no further  
14 questions.

15 ALJ SCHABO: Mr. Taylor, any redirect?

16 MR. SETTINERI: If we can have a moment?

17 ALJ SCHABO: Of course.

18 (Pause in proceedings.)

19 MR. TAYLOR: No redirect, Your Honor.

20 ALJ SCHABO: Okay.

21 Your exhibits.

22 MR. TAYLOR: Thank you, Your Honor. We  
23 would move that Company Exhibit 10 and Company  
24 Exhibit 11 be admitted into the record.

25 ALJ SCHABO: Any objections?



1 MR. VAN KLEY: No, Your Honor.

2 MS. BAIR: No, Your Honor.

3 MS. WEST: No, Your Honor.

4 ALJ SCHABO: Hearing none, they will be  
5 admitted.

6 (EXHIBITS ADMITTED INTO EVIDENCE.)

7 ALJ SCHABO: Mr. Bonifas, thank you. You  
8 may step down.

9 Let's go off the record for a moment.

10 (Discussion off the record.)

11 ALJ SCHABO: Let's go back on the record  
12 real quick.

13 That is it for today. We will see  
14 everybody at 9:00 a.m.

15 (Thereupon, the proceedings concluded at  
16 4:57 p.m.)

17 - - -

18

19

20

21

22

23

24

25

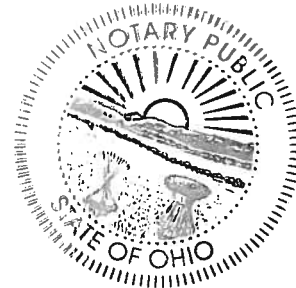
CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Wednesday, July 31, 2019, and carefully compared with my original stenographic notes.

Carolyn M. Burke  
Carolyn M. Burke, Registered  
Professional Reporter, and  
Notary Public in and for the  
State of Ohio.

My commission expires July 17, 2023.

- - -



**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**8/14/2019 11:04:12 AM**

**in**

**Case No(s). 18-1579-EL-BGN**

Summary: Transcript Volume I - In the Matter of the Application of Angelina Solar I, LLC for a Certificate of Environmental Compatibility and Public Need, hearing held on July 31st, 2019. electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Burke, Carolyn