BEFORE THE OHIO POWER SITING BOARD

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

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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 9:00 a.m. on Thursday, August 1, 2019.

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VOLUME II

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Thursday Morning Session,
August 1, 2019.

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

My name is Patricia Schabo. I'm the Administrative Law Judge assigned by the Board to hear the case.

We will skip appearances, as it is Day 2 of our hearing, and go straight with witness presentation.

Mr. Taylor.

MR. TAYLOR: Thank you, Your Honor. The Applicant would like to call Mr. Matthew Robinson.

ALJ SCHABO: Let's go off the record for a minute.

(Off the record.)

(Witness sworn.)

ALJ SCHABO: Have a seat. If you could state your name and business address for the record, please.

THE WITNESS: My name is Matthew Robinson. My business address is 217 Montgomery Street, Syracuse, New York.

MR. TAYLOR: Your Honor, I'd like to begin by marking a pair of exhibits this morning.

ALJ SCHABO: Let's do that.

MR. TAYLOR: Company Exhibit 12 is the Direct Testimony of Mr. Robinson, and Company Exhibit 16 is the Supplemental Direct Testimony of Mr. Robinson.

ALJ SCHABO: All right. So marked.

(EXHIBITS MARKED FOR IDENTIFICATION.)

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MATTHEW ROBINSON

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

DIRECT EXAMINATION

By Mr. Taylor:

Q. Good morning, Mr. Robinson.

A. Good morning.

Q. Could you please identify what's been marked as Company Exhibit 12, please.

A. That is my Direct Testimony.

Q. And was this prepared by you or at your direction?

A. Yes.

Q. And could you please identify what's been marked as Company Exhibit 16, please.

A. That is my Supplemental Direct Testimony.

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

A. Yes.

Q. Do you have any corrections or revisions to either of those testimonies at this time?

A. I do.

Q. Okay.

A. The Direct Testimony, Company Exhibit 12, on page 3, line 11, we have said that there are six viewpoints that the visual simulations were produced from, and that should actually be four.

Q. Okay. And do you have any other corrections or clarifications?

A. Yes. In the report, Exhibit I, I believe.

Q. And just to clarify that's Exhibit I to the Application?

A. The Application, sorry, yes. On pages 6, 21, 24, and 37, we have mentioned that the panel arrays will be 14 feet in height. For our analysis, as stated on Figure 7, we actually used a 15-foot

height for this analysis to be even more conservative because of the land form; so I just wanted to set that straight.

Q. Do you have any other corrections or revisions?

A. No, that is it.

MR. TAYLOR: Your Honor -- or, excuse me.

Q. Mr. Robinson, if I asked you -- subject to that correction, if I asked you the same questions in Company Exhibit 12 and Company Exhibit 16 today, would your answers be the same?

A. Yes.

MR. TAYLOR: Your Honor, the witness is available for cross-examination.

ALJ SCHABO: All right.

Mr. Van Kley.

MR. VAN KLEY: Thank you, Your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Good morning, Mr. Robinson.

A. Good morning.

Q. Let's go to Exhibit I of the Application. This is your report on the Visual Resource Assessment prepared for the Application, correct?

A. Correct.

Q. Let me just follow up on the corrections you made just a moment ago with respect to the visual analysis that you performed. If I'm understanding your changes to the report in Exhibit I that you made this morning, you assumed that the panels were 15-feet tall for purposes of analyzing visibility; is that correct?

A. For the purposes of the viewshed analysis.

Q. The viewshed analysis, okay. And what is the viewshed analysis?

A. The viewshed analysis provides us with a preliminary idea of where the Project potentially may be visible from.

Q. Okay. Now, did you do any other analysis that required you to make any assumptions about the height of the solar panels?

A. Yes, we did. We also make assumptions for the height of the solar panels for the visual simulations that we produce.

Q. Okay. And just for the record, where do you find those visual simulations in Exhibit I?

A. I believe they are Figure 11.

Q. And tell me, again, what was the height

of the panels that you assumed for that purpose?

A. We used 8-foot panels for the purposes of the visual simulations. That was the -- as we moved further along in the Project we got a better understanding of what the potential panel may be and the technology at the time and we try to use the most up-to-date technology that's going to be represented in our simulations that could possibly be used; so, at that time, it was thought that an 8-foot single-axis tracker panel would be what probably would be used, so that is what we put into the simulations.

For the viewshed analysis we like to provide a conservative analysis for our field crews and for people in the field. This site was extremely flat so we actually added a foot onto what we normally do for our viewsheds of 14 feet, to 15 feet, to just really make sure that we were capturing any potential areas of visibility that we could go and see in the field and verify.

Q. Now, you're aware that Angelina Solar has not yet chosen the panels that it's going to install in this Project?

A. Correct.

Q. And there are panels that are 15-foot in

height on the market, correct?

A. Correct.

Q. Okay. And, at this point in time, it's your understanding that Angelina Solar still has the option to select panels that are 15-foot tall for its Project?

A. Correct.

Q. Turn to page 23 of Exhibit I. First, I'd like to ask you some questions about Table 1 on that page. Table 1 is entitled as "Solar Panel Viewshed Analysis Results Summary," correct?

A. Yes.

Q. And this table contains results of your viewshed analysis?

A. That is correct.

Q. And that's an analysis that assumed the panels would be 15-foot tall?

A. Yes.

Q. So tell me if I'm interpreting this table correctly. I'm looking at the column for -- the columns for "Distance from Project Area" in the middle of that table. Do you see that?

A. Yes.

Q. And under the heading "Distance from Project Area" there are four distance intervals

listed, correct?

A. Correct.

Q. The first interval that is listed is from 0 to .5-mile away from the Project Area, correct?

A. Correct.

Q. And is this -- let's see. The figures you have under that for "DSM Viewshed Visibility," there you stated it's based on topography, structures, and vegetation, correct?

A. Correct.

Q. Explain what that means.

A. In order to do this we use what's called LiDAR. It's light-emitting detection of distance that is flown by helicopters or drones even these days. It shoots millions of points of laser down to the ground and it's able to detect the different types of surfaces and it bounces back up to the LiDAR machine that then reads that distance; so we are given a surface that we're able to use in our program that is very accurate and provides all of what structures and vegetation would be on the ground at that point in time.

Q. Okay. So the row that's labeled "DSM Viewshed Visibility (Based on Topography, Structures, and Vegetation)" shows the percentage of the area

that is visible from which the Project equipment, the solar equipment, would be visible given the topography and the existing structures and vegetation in the area; is that accurate?

A. Where it could potentially be; a portion of the Project could potentially be visible, yes.

Q. Okay. All right. So for the distance of 0 to .5-mile, a portion of the Project equipment would be visible from 82.26 percent of that area between 0 and 0.5-mile.

A. That is correct.

Q. And then from a distance of 1 to 2 miles away from the Project Area, the Project's equipment would be visible from 30.78 percent of that area.

A. That is correct.

Q. And then between 2 and 5 miles away from the Project Area, the Project's equipment would be visible to 7.52 percent of the area.

A. That is correct.

Q. I'd like to direct your attention to the last paragraph on page 23 of Exhibit I. Counting from the bottom, I'd like to look at the sentence that starts five lines from the bottom which reads: "Exceptions occur north of the Project site where multiple adjoining agricultural fields align with

minimal intervening vegetation and structures." Do you see that sentence?

A. Yes.

Q. Okay. Would you explain the meaning of that sentence to me, please?

A. Right above that we talk about how the visibility of solar panels drops off drastically as you move away from them in distance as with the numbers that we just looked at.

What we're trying to explain in that sentence, if we look at Figure 7, Sheet 2, you can see that most of the green area, which is representing the potential visibility, is within that 2-mile black dotted study area but to the north there are some lines that shoot out to the 5-mile.

And during field review, when we were out there, because this site is so flat, the viewshed works simply by drawing a line of sight from the point that the viewer is at, or any point along here is what it's representing but it could be where a viewer is at, and draws it to the Project.

So, in this instance, the topography and structures and vegetation from that northern part does show that you can see potential Project equipment. However, field review and our experience

shows that, beyond those distances, when you get out that far it's very hard to discern any type of Project equipment or what you're really seeing, but technically, according to the viewshed, which is very accurate to where the data that goes into it but it can't take into account an actual human being in the field.

Q. So at what mile distance is it your opinion that the viewer would not be able to discern the solar equipment?

A. For the Angelina Project, based on our field review and the conditions of the existing landscape, I believe we put down up to 2.5 miles and then, past that, it's going to be very challenging to discern any type of Project equipment.

Q. Since we're on Figure 7, Sheet 2 anyway, let me ask you some more questions about that sheet. The green color in this figure shows where the panels, the solar panels, are visible from; is that correct?

A. It shows potential visibility, yes.

Q. And Figure 7, Sheet 2 is based on topography and existing vegetation and structures, correct?

A. Correct.

Q. Now, with regard to the vegetation, that vegetation would take the form of bushes and trees?

A. Yes.

Q. And for purposes of the information you included in this sheet, you assumed that deciduous trees and bushes would block the viewer's view; is that correct?

A. For a certain portion of them when they're wide enough. We do an offset for roads to take care of small hedgerows that may only be one deciduous-tree thick.

Again, the LiDAR data we use can be so accurate that it can pick up distribution lines along the side of roads and drop a line directly down to the ground and show that it would be blocking it; so we offset roads in order to capture those distribution lines and, like I said, the small hedgerows.

Hedgerows that are larger than that that are deciduous are mostly mixed and we find when they're thicker than one tree trunk that they will provide some screening.

Q. But not complete screening during the wintertime when the leaves have dropped off.

A. No.

Q. And for purposes of this analysis, you assumed that any tree that was 6 feet in height or taller would block the viewer's view of the Project?

A. I'd like to check just to make sure what height we used.

Yes, 6 feet.

Q. Okay. And the panels could be as tall as 15 feet, correct?

A. Correct.

Q. Let's turn back one page to Figure 7, Sheet 1. The information on this sheet is based on visibility taking into account only topography and not vegetation or structures, correct?

A. Correct.

Q. I have a question about the notes on the bottom of the page. If you look at Note 4, it says "Potential solar panel viewshed visibility is based on the screening effects of topography, vegetation, and man-made structures as represented in the OGRIP State of Ohio 2007 lidar dataset (resampled to 5-foot resolution)." Do you see that note?

A. Yes, I do.

Q. Okay. Is that inconsistent with your testimony that this sheet is based only on topography?

A. The note is correct as in what it's saying, but it should not be on this sheet, that is correct.

Q. Let's go to Figure 7, Sheet 3. I see that there's a dotted line towards the middle of that figure; do you see that?

A. Yes.

Q. And that dotted line represents an area of 2-miles around the Project Area?

A. Yes. Well, for Sheet 3, it's the substation.

Q. Oh, okay.

A. Just to clarify.

Q. Okay. You have another sheet that shows the distance around the Project Area, right?

A. 1 and 2 use the Project Area. Sheets 3 and 4 use the substation.

Q. Oh, okay. So we also have that dotted line --

A. On 1 and 2 as well.

Q. -- within 2 miles of the Project Area on 1 and 2, correct?

A. Correct.

Q. Okay. Now, can you tell me whether the 2-mile area around the Project Area includes portions

of the City of Eaton?

A. It does not.

Q. Okay. Would you turn to Figure 5 of the Application. Not Figure 5 of Exhibit I, but Figure 5 of the Application.

ALJ SCHABO: It's in the same group of maps that all you can see is Figure 4.

A. Five.

Q. All right. Did you find it?

A. Yes.

Q. Okay. Great. Are there any urban areas that are depicted within 2 miles of the Project area?

A. On Figure 5?

Q. As shown on Figure 5, yes.

A. Figure 5 is a "Map of Ohio Solar Resources"; is that correct?

Q. Yup.

A. So I'm not really sure what would be depicting an area of -- I forgot the term you just used, but where people live.

Q. Do you see -- you've visited the area, right?

A. Yes, I have.

Q. And you drove around the Project Area?

A. Yes.

Q. All right. Did you see that there was an urban development, named Lakengren, to the west of the Project Area?

MR. TAYLOR: Objection. There's no foundation to these.

MR. VAN KLEY: Say again.

MR. TAYLOR: There's no foundation there's any urban development near this Project.

A. Correct. Just west of the Project --

ALJ SCHABO: Hold on.

MR. VAN KLEY: I just asked him whether he saw an urban area, called Lakengren, within 2 miles of the Project.

ALJ SCHABO: Is your objection to the word "urban"?

MR. TAYLOR: Correct. There's no foundation that it's "urban."

ALJ SCHABO: Can you back up a couple questions?

MR. VAN KLEY: Sure.

ALJ SCHABO: Thank you.

MR. VAN KLEY: Sure.

Q. (By Mr. Van Kley) When you drove around the Project Area, did you notice an area that is referred to as Lakengren?

A. I did not notice that area when I was driving around the Alamo -- I mean the Angelina Project, no.

There's a small community called Fairview that I noticed that I drove through, and a community that is part in Indiana and part in Ohio and it was kind of confusing but College Corner, I believe it's known as or so. Those are the two small urban areas, that could be considered urban in some way, that were located within the Project Area.

Q. Okay. Let's go to page 38 of your report which is Exhibit I. I would like to refer you to the discussion on that page about visual screening which you'll find on the bottom half of that page. Are you there?

A. Yes.

Q. All right. Now, tell me what types of screening, if any, are planned for the Angelina Solar Project.

A. We are currently in the development of three different modules, as we call them, which are conceptual planting designs.

One of the modules is based off of what we call roadside enhancement where we use pollinator-friendly grasses to soften the fence.

The second module is based off of hedgerow infill and also small native shrubs. This is for further distances, used in areas where it may not be directly adjacent to the roadside.

And then we have a third module that we call our adjacent resource or residence module and that one includes the most amount of screening and is placed around residences and, as I said, adjacent resources that are identified in the Project Area.

Q. All right. Let's break down each of these three types of modules for screening to get a better description as to what they entail. Let me refer you to Figure 13, Simulation 1, Viewpoint 3, and I'll repeat this in a moment as everybody gets there. This is in Exhibit I.

Okay. So again, it's Figure 13 --

A. I'm there.

Q. -- Simulation 1, Viewpoint 3, Sheet 2 of 4.

A. I'm there.

Q. All right, great. Now, this is one of the visual simulations you talked about, right?

A. Correct.

Q. And this visual simulation is based on the assumption that the panels are 8-foot tall

instead of 15-feet tall?

A. Correct.

Q. So if the panels are 15-foot tall, they would be depicted as being higher in this simulation, correct?

A. Correct.

Q. Just as a matter of curiosity, I guess, I was wondering about the fence that's shown in this simulation. It appears to be a solid fence; is that right?

A. It's a chain-link.

Q. It's a chain-link fence?

A. Yup.

Q. Now, with a chain-link fence, you can see the solar panels through the fence, right?

A. Correct.

Q. But it doesn't look like the solar panels are depicted as being visible through the fence in your simulation.

A. Yeah, I'm not sure what you mean by that question.

Q. Well, I guess I'm looking at the simulation. I don't see the panels behind the fence. Do you see them?

A. Yes. All the blue. It's -- everything

that I think you're looking at, that you might think is the fence, is the panels.

Q. Okay. All right. Let me ask you about the vegetation that's in front of the panels. Is this meant to depict one of your types of screening?

A. At the time it was produced it was meant to depict pollinator habitat, which is a large portion of Module 1 that we are producing.

Q. All right. So how tall do the plants, included in Module 1 for roadside enhancement, get?

A. The mix that we were looking at, at this point in time the Company said there was potential for some of the material to be 4 to 6 feet in height in one season.

Q. And how tall would the vegetation be at full maturity?

A. That is one season of growth is full maturity. Wildflowers will die each year and then grow back.

Q. So the vegetation, used in your roadside enhancement module, do not hide the fence or the solar panels, correct?

A. "Hide" is not the term I would use, no. They soften the edge of it.

Q. What do you mean by "soften the edge"?

A. The introduction of the fence and the panels creates a vertical line into the landscape and that type of vegetation is a way of breaking that vertical line and softens that edge. So when I say "soften the edge," I mean we've got material that is breaking a vertical line.

Q. Let's talk a little bit more about Module 2 for mitigation which I think you refer to as the hedgerow module, right?

A. Really it's based off of using native and local shrubs to create or infill areas.

Q. And in which type of area would you envision the hedgerow mitigation to be used?

A. It can be used -- Module 2 can be used along different types of roadsides in different areas where the setback might be different. If the property has not been signed up that's adjacent to the road and the panels are further back from the road or there's more space because of some type of wetland that may be there or something, there's different -- that would be a module we would use that's a little further away from the road normally.

Q. And how tall does the vegetation used in this module get at full maturity?

A. Depending on placement, we do have --

sometimes EDR will put full-size trees in that module so they could grow to 45 feet. We're not -- EDR does not use trees, like pine, that's going to grow to 80 feet. The choice is more of local deciduous trees that end up being around 45.

The shrubs that are chosen end up being in the 15 to 20-foot range at full maturity. And then there's also trees that are smaller trees that can be used as well, the same kind of idea, and those grow to about 25 feet in height.

Q. All right. With regard to your third module for mitigation which entails placing vegetation near residences and other sensitive receptors, describe what kind of vegetation is planned for those areas.

A. Module 3 incorporates more evergreen material so that the screening is longer-lasting into the winter and it really beefs up Module 2 with that evergreen material. It also has tighter spacing in the planting to screen more of the Project.

Module 3 is based on, as we say, a resource residence where somebody is most likely not moving, a viewer is in a stationary position, so we've tightened the spacing..

When a viewer -- Module 2 is more for

viewers that are traveling along the roadways, so the spacing of the vegetation is wider because of the speed of the traveler.

Q. So with regard to Module 3, how tall would the evergreens get at full maturity?

A. Some of those evergreens would reach into the 60-feet range.

Q. And do you envision that the vegetation for Module 3 would completely block the view of the solar equipment from the sensitive receptors?

A. It's never my goal to have 100-percent screening. EDR does not feel that that is appropriate in the landscape and often it looks awkward and draws attention.

The idea is to create a screen that is -- that does its job at screening the majority of the Project, usually this is a very adjacent Project, while still allowing some light and some air to kind of move through the space rather than creating almost a green wall that kind of separates everything that's going on.

So it's never a goal to get 100-percent screening. In order to do that, we would really be looking at different types of materials and, in this situation, putting in a 10-foot opaque fence is also

not what we would suggest in any way; it does not fit the character of the landscape nor what we would feel would fit in with what the locals would agree with and want.

Q. Okay. Is it you who will be designing the mitigation plan for visibility in the Project?

A. I am a large part of it, yes. There's certainly a team at EDR. I am not an Ohio-plant expert myself but we do have them, so I'm working with a team of landscape architects to develop the plans.

Q. And has that process started --

A. It has, yes.

Q. -- of developing the plan?

Okay. Have you, at this point, consulted with any of the landowners, who have property adjacent to the Project Area, for purposes of soliciting their views on what would be necessary to protect their views from their property?

A. In EDR's experience lots of times bringing in the neighbors makes it harder for us; it over-engineers some things sometimes. Lots of times they will choose plants that are not the correct plant for that location. It will create problems further on down the road.

We're trying to place something there that accomplishes the goals of the Project but still allows -- and allows it to grow and mature without needing too much maintenance or looking like it may die. We want to really spec material that is appropriate for that location and, lots of times, when we have other opinions, that we may or may not need to work with, it kind of jams up what actually needs to go into the ground.

Q. So are you saying then that you have not consulted with any of the neighbors at this point?

A. We -- correct. EDR will not be consulting with the neighbors. If there's specific outreach that's been done by Angelina Solar, they can let us know, but EDR does it based off of receptors and the appropriate material for that area.

Q. So not only have you not consulted with the neighbors thus far in your creation of the plan, but you have no plans to consult with the neighbors in the future.

MR. TAYLOR: I'm going to object to the usage of "you." If you can be more specific in what "you" means.

Q. EDR.

A. EDR will accept any information that is

given to us from Angelina certainly, but EDR will not be reaching out to any landowners.

Q. So, at this point, the mitigation plan is still in the works, right?

A. It has not been complete. It's not been 100-percent completed, no. We are waiting for final design.

Q. And because it hasn't been completed, the plan has not been included in the Application?

A. That is correct.

MR. VAN KLEY: I have no further questions.

ALJ SCHABO: Any redirect?

I'm sorry, anybody else want to cross?

MS. WEST: No, Your Honor.

ALJ SCHABO: Any redirect?

MR. TAYLOR: Your Honor, may we take a moment?

ALJ SCHABO: Yes. Let's go off the record for five.

(Off the record.)

ALJ SCHABO: We'll go back on the record.

Mr. Taylor, do you have any redirect?

MR. TAYLOR: I do, Your Honor.

ALJ SCHABO: All right.

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REDIRECT EXAMINATION

By Mr. Taylor:

Q. Mr. Robinson, Mr. Van Kley asked you a number of questions about Table 1, as well as Figure 7 in your report, that use the term "visibility." I was hoping you could describe what "visibility" means in that context.

A. Yes.

When we talk about "visibility" and especially with a solar Project and the distance zones as we move out from the Project Area, visibility changes from being able to discern equipment to maybe a mass that you can't really tell against a background when you're out around 5 miles.

So it's very important to understand, when we're talking about visibility out past 2-1/2 miles, that it's not individual Project equipment that you can discern or see with your naked eye, but you may be able to make out some type of line against the background or something like that; but being able to tell it's a solar Project from that far away or discern any type of Project equipment is very difficult and that's why we break it down into zones. So when you're in the foreground zone, you

will be able to see what that equipment is.

So visibility, when we look at a visibility analysis and we see that it says "potential visibility out to 5 miles," that visibility is very, very, very different than the visibility that it's talking about when you're adjacent to the Project.

We use the same term "visibility" but the -- but when you're doing field review and what you're discerning with the eye is very different from those distances.

Q. Looking inside of that 2-1/2 miles, would you necessarily be able to discern the Project equipment at that range?

A. Most likely not. You would still see more of the horizontal line or the idea that there may be something in front of a hedgerow, but being able to tell what it is would be very difficult.

Q. On page 23 of your report, I'm looking at the -- actually, we'll move on, Mr. Robinson.

Mr. Robinson, Mr. Van Kley asked you some questions about -- or, excuse me.

In response to one of Mr. Van Kley's questions, you indicated that the communities of Fairhaven and College Corner were in the general

vicinity of the Project; is that right?

A. That's correct.

Q. Will the Project be visible from those communities?

A. The viewshed analysis showed no visibility from those communities, and the field review confirmed that there's intervening vegetation that would be blocking from those communities; so no, there is no Project visibility from those two areas.

Q. And finally, Mr. Robinson, Mr. Van Kley asked you some questions about Figure 13 to your report. This simulation was run with panels at a height of 8 feet; is that correct?

A. That is correct.

Q. Would your conclusions in your report be different if those simulations were run at a height of 15 feet?

A. They would not, no. We're still introducing contrasting use into the landscape that, from an adjacent position, you would notice and it would be visible.

And then the same thing goes with visibility. As we move away, we're not going to notice it as much, so that height change would not change the outcome of the simulations.

Q. Just to follow up on one of my earlier questions. Would you be able to -- turning back to the view of the actual equipment. Would you be able to discern the individual Project equipment at a distance inside of 2 miles?

A. I mean, inside of just 2 miles, no. If we're talking about inside down to .5, yes, but really in that .5 to 2-mile range is where that discernible equipment starts to go away and you can't tell what it is; you can't see individual components anymore.

Q. Okay. And why is that?

A. It's the nature of the equipment and the nature of the human eye with the background. We -- it's harder to understand the small little lines, the little creases that are in between the solar panels, the different colors that make them up. As we move further away, it all blends into one similar cohesive kind of unit so you're not able to make out any type of individual equipment.

MR. TAYLOR: Thank you, Your Honor. No further questions.

ALJ SCHABO: Any recross, Mr. Van Kley?

MR. VAN KLEY: A little bit.

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RECROSS-EXAMINATION

By Mr. Van Kley:

Q. So with regard to the fact that you used the assumption that the panels would be 8-foot instead of 15-foot tall in your visual simulations. If the panels are 15-foot tall instead of 8-foot tall, that means, for purposes of mitigation, Module No. 1, you'll be able to see more of the panels above the vegetation, correct?

A. Module 1 is not designed to really screen the panels themselves very much. It's more to soften the edge of the fence. There would be more panel available above that, yes, but it would not change the goal of that mitigation module.

Q. Because the goal of that module is not to hide the fence --

A. Correct.

Q. -- or the panels, right?

A. Correct.

MR. VAN KLEY: No further questions.

ALJ SCHABO: Okay. Thank you. You may step down.

MR. TAYLOR: Your Honor --

ALJ SCHABO: Yes.

MR. TAYLOR: -- the Applicant would like

to move Company Exhibit 12 and Company Exhibit 16 into the record, please.

ALJ SCHABO: Any objections?

MR. VAN KLEY: No, Your Honor.

ALJ SCHABO: Hearing none, they will be admitted.

(EXHIBITS ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Mr. Taylor, your next witness.

MR. TAYLOR: Your Honor, the Applicant would like to call Mr. Ryan Rupprecht.

(Witness sworn.)

ALJ SCHABO: Thank you. Have a seat.

Please state your name and your business address for the record.

THE WITNESS: My name is Ryan Rupprecht. Business address is 121 Continental Drive, Suite 308, Newark, Delaware.

MR. TAYLOR: Your Honor, I'd like to begin by marking an exhibit.

ALJ SCHABO: Yes.

MR. TAYLOR: Company Exhibit 13 is the Direct -- excuse me -- the Direct Testimony of Ryan Rupprecht.

ALJ SCHABO: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

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RYAN RUPPRECHT

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

DIRECT EXAMINATION

By Mr. Taylor:

Q. Mr. Rupprecht, could you identify what's been marked as Company Exhibit 13?

A. It's my Direct Testimony.

Q. And was this prepared by you or at your direction?

A. It was.

Q. And do you have any revisions to that testimony at this time?

A. I do have one revision.

Q. Okay.

A. Question --

Q. What is that?

A. Yup. Question 8, line 15, after "November 2017" I'd like to insert "and April 2018."

As well as line 16, at the end of "survey," add an "s" to make it "surveys."

Q. Do you have any other changes or revisions?

A. I do not.

ALJ SCHABO: I'm sorry.

MS. BAIR: Your Honor, could I ask for the first change to be reiterated?

THE WITNESS: I'm sorry, yeah. So it's Question 8, line 15, after "November 2017" insert "and April 2018."

ALJ SCHABO: And then your second correction?

THE WITNESS: The second correction is line 16, add an "s" to the first word of that line, "survey," to make it "surveys."

ALJ SCHABO: Thank you.

Q. (By Mr. Taylor) I think I'll ask you again. Did you have any other revisions to your testimony?

A. I do not.

Q. And subject to that revision, if I asked you the questions in Company Exhibit 13 today, would your answers be the same?

A. They would be.

MR. TAYLOR: Your Honor, the witness is available for cross-examination.

ALJ SCHABO: Mr. Van Kley.

MR. VAN KLEY: Thank you, Your Honor.

- - -

CROSS-EXAMINATION

By Mr. Van Kley:

Q. Why don't we start with the Direct Testimony that you just changed. I'll ask you a few questions about your -- about Cardno's visits to the Project Area. How many total visits did Cardno make to the Project Area?

A. A total of three.

Q. And can you give me the dates of those three visits?

A. November of 2017 was a multi-day visit; that was when the first round of wetland and water body delineation work was conducted as well as habitat evaluation. And again in April of 2018, I believe that was a day or two days of additional field surveys for added parcels, as well as an individual visit in April of 2019.

Q. What did you do during your visit in April 2019?

A. That was my own personal visit to the Project site. I was trying to get a better feel for the Project Area prior to meeting with Staff.

Q. Was that the first time that you, personally, visited the site?

A. That was the first time I, personally, have visited the site, correct.

Q. So, in November 2017, the purpose of the visit was to delineate wetlands and anything else?

A. Habitat evaluation.

Q. What was the purpose of the visit in April 2018 by Cardno?

A. The same; wetland delineation as well as habitat evaluation.

Q. Were these visits all conducted during daylight hours?

A. They were.

Q. None of these visits occurred during the height of the -- let me ask you -- there's a foundation here. Are you an expert in the identification of birds?

A. I'm not sure what you mean by "expert," but I have conducted bird surveys, particularly raptors.

Q. Okay. And are you proficient in identifying raptors or other bird species by sight?

A. By sight, yes.

Q. Okay. How about by song?

A. My personal experience probably not, but Cardno certainly has folks that are qualified to do

that.

Q. Did any of those folks participate in the site visits to this Project Area?

A. I would have to check, but I don't know off the top of my head.

Q. Other than casual observations about what species of birds might have been seen during the wetland delineations and habitat analysis, was there any survey of birds conducted during any of those visits?

MR. TAYLOR: Objection, Your Honor. The reference to "casual observations" has no foundation. It's a mischaracterization of the witness's testimony.

ALJ SCHABO: Can you read that question back for me, please?

(Record read.)

ALJ SCHABO: Can you ask that question again?

MR. VAN KLEY: Yeah, I'll break it down to a few --

ALJ SCHABO: Thank you.

MR. VAN KLEY: -- components.

Q. (By Mr. Van Kley) Did Cardno's representatives, during any of these field visits,

perform any bird surveys of the area?

A. There was no direct species of bird surveys conducted by Cardno. It was not designed to, you know, evaluate birds in relation to the site directly.

Q. Okay. And were any bat surveys conducted?

A. There were no bat surveys conducted by Cardno. Again, no direct surveys were designed for identification of bats, no.

Q. You're aware that the Project has some habitat that could be used by the endangered Indiana bat?

MR. TAYLOR: Objection, Your Honor. There's no foundation again.

MR. VAN KLEY: I'm just asking if he's aware of that, of whether there was.

ALJ SCHABO: That's a fair question.

You can answer.

A. I'm aware that the area of the Project Area is within the range of Indiana bat, yes.

Q. Okay. And are you aware of whether there are any species of trees in the Project Area that can be used by the Indiana bats as habitat?

A. There's potential trees in the Project

Area that could be used for the Indiana bat; however, the Project has no proposed tree clearing that would affect this habitat.

Q. Well, some of the vegetation in the area is proposed to be cleared; is that correct?

A. There is .07 acres of trees that are proposed to be cleared. This number is very conservative. The way it's developed is through GIS which essentially takes the entire canopy of the area and blocks it out as acreage of saying that that's wooded area.

The reality is that area is not completely comprised of wooded vegetation and a lot of times this represents what are called "windrows," very narrow strips of trees between properties, usually existing old property boundaries or fence lines or things along those lines, and I believe most of the clearing is related to those areas.

So the estimate of .07 acres is probably an overestimate of the total amount of clearing, so I would say the amount of clearing is extremely minimal and that this will not represent a change in the habitat for bats.

Q. Do you know what species of trees are used by bats for their habitat?

A. They prefer foliating bark trees and such, an example would be what's called a shagbark tree, but they could use other trees, particularly old oaks or things, especially ones that have died and their bark is starting to flake which is the kind of thing that's an attractive bat habitat. Those are the types of trees they would seek out.

Q. Does the Project Area include or contain any species of trees that can be used as habitat by the Indiana bat?

A. Yes, as far as in the Project Area that is correct; but in what's called "the buildable area," which is a smaller subset of that and primarily where the panels would be placed and other infrastructure, there is not.

Q. So is it your understanding then that none of the areas, that will be cleared for the Project, include any species of trees that can be used as Indiana bat habitat?

A. I don't know the specific trees that are going to be cleared. My understanding is it's very minimal. If we're talking about a single tree or two, I don't think that will affect the use of the area by bats is what I'm saying.

Q. Well, bat species are known, at times, to

use just a single tree as a roosting tree; isn't that correct?

A. Bats may use multiple roosting trees, but yes, during mating periods they may be more susceptive to single-use areas, yes.

Q. So there was no mist netting to look for species of bats in the area?

A. There was no mist netting conducted by Cardno, and I'm not aware of any other mist netting done by another consultant, no.

Q. And the Project Area also falls within the range of the northern bat, correct?

A. Are you referring to the northern long-eared bat?

Q. Yes.

A. I believe it is also in the range of the long-eared bat, yes.

Q. Is that an endangered species?

A. I believe it's a threatened species, yes.

Q. Did Cardno perform any surveys of mammals in the Project Area?

A. Again, we did no surveys that were directly in line to count or enumerate mammals within the Project Area, no.

Q. I'd like to direct your attention to

Answer 11 of your Direct Testimony on page 7. I'd like to read the second and the third sentence of that answer and then ask you some questions about those sentences.

"Using deer as a proxy, Cardno evaluated whether development of the Project would increase wildlife population density in areas surrounding the Project. We determined that deer in the surrounding area would increase by less than 5 percent, or less than 0.01 deer per acre."

Now, would you discuss or describe the determination that you made and how you got to the conclusion expressed in those two sentences?

A. Sure.

So Cardno was asked to evaluate the potential effect of the fence line to wildlife. In doing research, we determined that deer could be used as a proxy as we were able to collect additional information and sufficient information on deer, because that's a managed resource by ODNR and other resources, to be able to do that type of analysis.

So a multi, you know, multi-person team developed this analysis. It's using habitat utilization factors to determine the use of the -- the land use in the surrounding area to determine how

many deer are in that area and what would be the effect of taking away the buildable area.

So essentially to start, in doing research we found that deer have a home range in the area of between a half mile to 5 miles, so we considered 5 miles to be the study area.

We then, using National Land Cover Database, which is government-run information, determined the land use within that area.

Land use, there's a lot of research out there on deer and how they utilize different types of land use. There's no direct tie of utilization factors to particular land use from the National Land Cover Database; however, this type of work is not new to Cardno or anything else like that, but we had to develop our own habitat utilization factors based on that research.

So essentially what those habitat utilization factors are is how much of that land is available or how much time would the deer utilize that area.

So, for an example, a wooded area and stuff would have a habitat utilization of 1 or 100 in relation to a percentage. Essentially that area is available to the deer at all times. It's also their

kind of home area where they actually bed and maintain, you know, actual areas to live.

Other areas, such as someone's lawn or a medium-developed area, these are less utilized by deer so, therefore, they get a lower utilization factor.

And areas of forage and such, agricultural areas and such, would receive a moderately-high utilization factor since this is the primary forage for deer.

Using these factors, we then determined how much of that area is within that 5-mile radius and then we developed an estimate for deer density within Preble County. We use a couple different sources to kind of determine what that was.

Our primary resource was U.S. Department of Agriculture. They've done -- put together a survey for deer for the Eastern United States. This data is in the form of shapefiles that you have to download. If you download these files, they go down to the granular level of county level within each of these different areas.

If you click on a particular county, in this particular case Preble County, you get a code. You go to the key for that code and it tells you what

they estimate the density of deer is for that particular county in that particular area. In this particular case it was estimated at less than 15 deer per square mile.

We ground-truth this against ODNR data. ODNR data -- ODNR does not directly determine the population of deer in Ohio. They have certain estimates and things that they've put together over the years and everything else, but they don't report an actual density or total number of deer for the State of Ohio.

However, based on some of their estimates and models, ODNR estimated that there's approximately 725,000 deer within the State of Ohio and there's approximately 44,000 square miles in the State of Ohio, so that gives you a rough estimate, as far as density within Ohio, of 16 deer per square mile. So, again, our 15 and 16 are very close.

We then looked at Preble County; is Preble County considered higher or lower in average in comparison with the rest of the State of Ohio.

Based on hunting data and stuff from ODNR, we determined that Preble County is on the lower end of density for deer, based on hunting results and other survey information presented by

ODNR, so, therefore, we felt that 15 deer per square mile, represented by the U.S. Department of Agriculture, was relatively accurate and used that as our density.

Again, these habitat utilization factors were not developed by myself alone. This was a team made up of wildlife biologists, senior statisticians, and stuff.

Cardno has a lot of experience running these types of surveys and this type of work as Cardno does a lot of what's called "Natural Resource Damage Assessments" or "NRDA" for short. This is basically to evaluate natural disasters or other things as to loss of habitat or what the value of that loss is. Oil spills and wildfires are perfect examples of this type of analysis that we've done this for.

It's also not the first time we've done this type of analysis for energy projects in relation to deer. We've done this in Ohio, North Carolina, Virginia, other states as well.

So again, looking at this, you take the number of deer that you believe are in that 5-mile radius and then you determine how many deer are inside the actual buildable area.

Then you take out that buildable area, which is 827 acres of agricultural land, and then redistribute those deer within the 5 acres, still keeping the original density there and saying what is that increase in density, what is that increase or change from the Project Area no longer being able for forage. In this particular case, we got a result of less than 5 percent.

Q. When you calculated a redistribution of the deer from the Project Area into the area around the Project Area, did you assume that those deer would be redistributed evenly throughout the 2 miles surrounding the Project Area?

A. No. Again, using the --

MR. TAYLOR: Objection.

THE WITNESS: Sorry.

MR. TAYLOR: Objection to the extent that Mr. Van Kley is mischaracterizing the witness's testimony of the 2-mile area.

ALJ SCHABO: Could you read the --

MR. VAN KLEY: Oh, okay. 5-mile, right?

THE WITNESS: Correct.

MR. VAN KLEY: Let me re-ask the question. You're correct.

Q. (By Mr. Van Kley) When you figured out

your figures for redistribution into the 5-mile area around the Project Area, did you assume that those deer from the Project Area would be evenly distributed throughout that 5-mile radius?

A. No. We calculated that the deer would be redistributed based on the utilization so, therefore, we would say more deer went into the wooded areas or more deer went into other agricultural areas as those received higher utilization factors versus factors related to lower or medium-density areas.

Q. All right. So in your Answer 11, where you state "We determined that deer in the surrounding area would increase by less than 5 percent, or less than 0.01 deer per acre," and I don't see any variation in that number, I just see one number; so how do you explain then how you took into account various habitats in that 5-mile area when you figured out this 5-percent number?

A. So the redistribution is essentially a ratio. So when we calculated the total number of deer in the area, it was based on the habitat utilization. When you redistribute them, you're redistributing them at the same rate so, therefore, the percent change would be identical for all those different categories.

Q. Okay. So, for agricultural land, it's your view that the number of deer utilizing that kind of habitat is moderate, I think you said?

A. Moderate to high, yes.

Q. Moderate to high, okay. So if that's the case, then the number of deer in the agricultural areas around the Project Area, in your analysis, would increase by 5 percent.

A. Less than 5 percent, correct.

Q. Okay. So based on all the assumptions you made in your evaluation, how many deer currently are assumed to use the Project Area?

A. The Project Area within the fence line, is that what you're referring to?

Q. Yes.

A. Based on our analysis, I believe we got just under 14 deer within the Project Area within what's considered the buildable area.

Q. What's the total square-mile area within the fenced part of the Project?

A. I don't know what it is in square miles, but I believe it's roughly 827 acres.

Q. So with regard to the estimated 14 deer within the fence, that currently use the area that will be used for the fenced solar equipment, did your

analysis assume that those 14 deer would be distributed throughout the 5 miles surrounding the Project Area?

A. So the redistribution is basically saying where would those deer be able to utilize and such based on the utilization factor, so the distribution does not take into account location. It basically says it's all within the same homebound range of 5 miles, so yes.

Q. I see. But if the deer are currently using the Project Area and they will be displaced by the fences once the Project is built, wouldn't you expect those deer to more heavily use the areas that are adjacent to the property -- adjacent to the Project Area instead of areas that are further away?

A. Potentially initially, but deer will migrate throughout the day and stuff to find food, so I believe they will migrate wherever they are able to find adequate food.

This area is heavily agriculturally used. Deer, I believe in this area, are used to displacement and such on an annual basis. These fields are tilled and harvested on a regular basis as far as annually and, therefore, that would cause the deer to displace from these fields naturally, so I

have a feeling they would displace in a similar fashion as if a farmer was harvesting their field and such during construction.

Q. So let's say that one of the neighboring landowners has a field full of corn and it hasn't been harvested yet. And that landowner, being adjacent to the Project area, is closer to the areas that were previously used by the deer in the Project Area, than areas that are further away from the Project Area. Those deer are going to be more likely to use the closest areas containing food for them, than to wander further away in search of food, correct?

A. I believe that's a possibility. Our analysis was not that granular. Our analysis was to determine if this would be a long-term issue for the deer population, so any effect like that would be considered short-term and was not a direct part of our analysis.

Q. Are you familiar with a state park known as Hueston Woods in the area?

A. I am.

Q. Okay. How far is that from the Project Area?

A. A little over 5 miles to the southeast.

Q. 5 miles?

A. A little over 5 miles, yes.

Q. Do you know what the deer -- the population -- do you know what the density of the deer population is in Hueston Woods?

A. I do not know.

Q. So when you looked for USDA figures on deer density, those figures did not take into account natural areas that are denser in deer population, correct?

A. No, that's not correct. So one of our assumptions is the density of deer in Preble County is relatively evenly distributed based on utilization factors.

So essentially in the USDA thing it says the density is less than 15 deer per acre of suitable habitat so that's why we use the utilization factors to determine what is considered suitable habitat and apply that density to it. In doing so, when we redistributed the deer, we would take into account they would utilize areas of -- higher-quality areas more than other areas in our redistribution.

So to kind of answer your question, some of that is taken into account but one of our assumptions is that the deer population in Preble

County is relatively evenly distributed throughout the County, yes.

Q. Are you aware that, in some natural areas, the deer populations are higher than can be sustained by the amount of vegetation in those areas?

MR. TAYLOR: I'm going to object as to foundation.

MR. VAN KLEY: I'm just asking whether he was aware of that.

ALJ SCHABO: Well, is the question whether he was aware of or aware that?

MR. VAN KLEY: The question is whether it is true that -- whether he knows whether deer can be overpopulated in those areas.

ALJ SCHABO: You can answer that question.

THE WITNESS: Deer populations vary throughout the time of year and by sex.

During mating periods and stuff, deer may become more concentrated or actually less concentrated in certain areas. Deer, during other times of the year, may be more evenly distributed as they're grazing and feeding. During the wintertime they may be more concentrated as food sources may be more scarce, therefore the deer concentrate on those

food source areas.

So I would say the deer populations and density vary throughout the year, but when you think about year to year and throughout entire seasons, developing an average to say what the deer population is at any given time, I think, is a fair estimate and a fair assumption.

Q. Do you know whether the deer in Hueston Woods are overpopulated?

A. I do not know.

Q. Do you know whether the deer in Hueston Woods roam outside of the park to find food?

A. I have no direct knowledge, but I would assume that they do, yes.

Q. Do you know whether the deer in Hueston Woods Park travel as far as the Project Area to forage for food?

A. I would say that it's possible but not probable considering the distance between the two areas.

Q. Well, you said the range for a deer to go for foraging is between a half mile and 5 miles, right?

A. That is correct.

Q. And Hueston Woods Park is 5 miles from

the Project Area?

A. Over 5 miles.

Q. How much over 5 miles?

A. Not a lot, but it is over.

Q. Did you do any analysis of -- did you do any analysis to determine whether the number of coyotes in the area around the Project will increase as a result of the fencing in the Project Area?

A. I did not do a direct analysis on coyotes. However, we can use deer as a proxy as far as what the change in population would be of animals that would be excluded by fence lines and I would put coyotes in that factor; so whatever density of coyotes are in the Project Area, we assume their distribution would be very similar to the way the deer react to the fence line.

However, we did look at -- again, ODNR puts out statistics on managed species and such. Again, this is not very granular to be able to determine densities and stuff, but ODNR does not list Preble County as a hotspot for coyotes; it's still considered below average.

Q. But you didn't do a survey --

A. We did not.

Q. -- of the coyote populations.

A. We did not.

Q. And I assume then that you also don't live in Preble County.

A. I do not live in Preble County.

Q. So you've had no opportunity to observe, firsthand, the presence or lack of presence of coyotes in that area.

A. That is correct.

MR. VAN KLEY: I have no further questions.

ALJ SCHABO: Mr. Taylor.

MR. TAYLOR: Your Honor, we'd just like five minutes, please.

ALJ SCHABO: Yeah. Let's go off the record until a quarter till 11:00.

(Recess taken.)

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

Mr. Taylor, do you have some redirect?

MR. TAYLOR: Yes, we do, Your Honor.

ALJ SCHABO: Proceed.

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REDIRECT EXAMINATION

By Mr. Taylor:

Q. Mr. Rupprecht, you were asked a number of

questions about the deer evaluation that Cardno conducted. Just to clarify, what is the -- what was the study area for that evaluation?

A. Just to clarify, the study area went out to 2 miles around the fence line, not 5 miles.

Q. Does that make any other changes to your testimony?

A. It does not. The calculations, as far as the change in percentage, is all the same.

Q. Thank you.

You were also asked a number of questions about the potential impact to adjacent properties. Do you recall that?

A. (Witness nods.)

Q. What will the -- what will the impact of construction be on deer displacements?

A. Construction is not an instantaneous action and the fence line doesn't go up instantaneously, so the dispersement of deer will happen over a period time. Nine months to a year is generally what the construction time would be.

And as those noise levels increase and activity levels increase, the deer will displace even further away from that Project Area and, as they displace and are taking away that forage area, the

deer are more likely to find kind of a new home range as food is not limiting a factor in this area so, therefore, they find a new kind of home range area outside of the Project Area, as they would be used to that displacement over that period of time.

MR. TAYLOR: Thank you, Your Honor. No further questions.

ALJ SCHABO: Any recross, Mr. Van Kley?

MR. VAN KLEY: Yeah.

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RECROSS-EXAMINATION

By Mr. Van Kley:

Q. I guess now I'm confused about your testimony concerning the 5 miles that we talked about earlier, so I want to make sure I'm clear on that.

I think earlier you may have said that you assumed the deer displaced by the Project Area fences would be dispersed in an area of 5 miles.

A. That's correct, I believe I did say that and I'm correcting that our analysis was for 2 miles, not 5 miles; I misspoke.

So the range of deer ranges quite a bit. There's a lot of literature out there that say deer may range quite a bit, but we've found the home bounding of deer is between a half mile and 2 miles,

not 5 miles, so I just want to make sure that is clear. And so, therefore, the calculations that we did as far as the land use and everything, this analysis was for 2 miles.

MR. VAN KLEY: Okay. All right. I think I'm clear on that now. I have no further questions.

ALJ SCHABO: Thank you. You may step down.

Mr. Taylor.

MR. TAYLOR: Your Honor, we move that Company Exhibit 13 be admitted into the record.

ALJ SCHABO: Any objections to Company Exhibit 13?

Hearing none, it will be admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Mr. Settineri, your next witness.

MR. SETTINERI: Thank you, Your Honor. At this time, Angelina Solar will call David Hessler to the stand, please.

(Witness sworn.)

ALJ SCHABO: Thank you. Have a seat and state your name and business address for the record when you're ready.

THE WITNESS: My name is David Hessler.

I work for Hessler Associates, and my office is located at 5096 North Silver Cloud Drive in Saint George, Utah.

ALJ SCHABO: Thank you.

MR. SETTINERI: Your Honor, at this time, we'd like to go ahead and mark, as Company Exhibit 14, the Direct Testimony of David Hessler.

ALJ SCHABO: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

- - -

DAVID HESSLER

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

DIRECT EXAMINATION

By Mr. Settineri:

Q. Good morning, Mr. Hessler.

A. Good morning.

Q. Do you have before you what's been marked as Company Exhibit 14?

A. I do.

MR. SETTINERI: Okay. Your Honor, if I may just go off the record briefly?

ALJ SCHABO: Yes. Let's go off the record.

(Off the record.)

ALJ SCHABO: Back on.

Q. (By Mr. Settineri) Mr. Hessler, do you have any changes or corrections to your testimony today?

A. Yes. Just two minor corrections.

The first one is the answer to Question 1, line 4. I've just moved and my office address is different now. The new address is what I just gave of 5096 North Silver Cloud in Saint George. The new zip code is 84770.

And the other change is just to one word on page 4, line 20, where it says "only occurring during the day....", I'd like to change that to "mainly occurring during the day...."

Q. So, for the record, you're striking the word "only" and substituting the word "mainly"?

A. That is correct.

Q. Do you have any other changes to your testimony today?

A. No.

Q. Okay. And was this testimony prepared by you or at your direction?

A. It was.

Q. Okay. And if I was to ask you the questions in your testimony today -- strike that.

Mr. Hessler, regarding the change you made regarding "mainly," why did you make that change?

A. Because it's come to my attention, since I wrote this, that the transformer, the step-up transformer in the substation does not go completely off at night, as I had originally thought, but remains energized and there's some potential for a continuing noise there.

Q. So if I was to ask you the questions in your testimony, would your answers be the same today as you have revised?

A. Yes.

MR. SETTINERI: Thank you, Mr. Hessler.

Your Honor, the witness is available for cross-examination.

ALJ SCHABO: Mr. Van Kley.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Hessler, with regard to the substation that's included in the Project, you did some analysis of the sound levels that are expected to be heard at nearby residences from that substation?

A. That's correct.

Q. Okay. That analysis is included in Exhibit E of the Application, correct?

A. I believe so.

Q. Okay. If you can turn to Exhibit E, please, and tell me whether that is a report that you wrote for the Application.

A. Yes, that's correct. I didn't know whether it was E or what it was, but yes, that's it.

Q. All right. Will you turn to the place in your report where you identify the sound levels expected to be heard at the nearest residences and let me know where to find that.

A. Well, the best place is a table at the end of the text. It's Table T-2113-101618-0.

Q. What page number of the report is that table found on?

A. It's after page 16 of the report.

Q. Is it the first page after page 16?

A. Yes.

Q. So interpret this table for me, if you would, specifically with regard to the sound levels expected to be heard at the nearest residence.

A. The first part of the table calculates the sound level from the transformer and then it's

projected out to three different residences which are referred to as Design Point 1, 2, and 3.

The nearest residence is Design Point 1 in Section 2 of the table. The predicted sound level there is 39 dBA and that receptor point is the residence of the landowner that's leasing the land that the substation is on.

And then the next two more distant receptors are nonparticipating. The next nearest house is about 1,300 feet away; the predicted level there is 28 dBA. And then the next nearest house is about 1,500 feet away; the predicted level there is 26 dBA.

Q. Are these calculations of the sound levels expected to be heard during the daytime?

A. Yes. When the transformer is in normal, full operation. These levels may continue through the evening. It's unclear whether they'll be this loud. This will be a worst case for nighttime.

Q. Go to page 5 of your report and keep your finger on the table that we've been discussing because I'd like to refer to that table and page 5 at the same time.

I'm looking at the last paragraph on page 5, where the first sentence states "What these

results generally show is that this environment is extremely quiet with sound levels typically in the 20 to 35 dBA range." Do you see that sentence?

A. Yes.

Q. Now, the sound levels of 20 to 35 dBA comes from your evaluation of the background sound in the area around the substation, right?

A. Right.

Q. And explain why you quantified the background sound level in this area.

A. It's standard practice to do a preconstruction survey to establish what the existing background level is, so that that can be compared to projections of the future Project sound level.

So we monitored near the closest residence, that's DP-1, for 14 days, to see what the existing conditions were, and they're plotted in this chart that's shown right above the part we were just talking about.

But the bottom line is the daytime sound level there, the L90, the real residual background is about, on average, 31 dBA. And then the average level, the Leq during the day, is 39 dBA. And that represents the true average level that happens every 10 minutes.

Q. And the reason that you quantify the background sound is because you want to find out how much sound normally in the area would mask the sound of any new source of -- any new sound source that would come into the area.

A. Exactly.

Q. Now, did you do any background sound measurements at night?

A. Yeah. We measured 24 hours a day.

Q. Okay. And can you tell me what the range of background sound in this area around the substation site is at night?

A. Yeah. The area is very quiet in general.

At night, the average L90, which by the way is the sound level that occurs in between any sporadic noise event, any car going by, wind gust, the true real background, that's 27 at night and then the average level at night is 33. All those numbers are very, very low.

Q. Go to page 2 of your report which is marked as Exhibit E to the Application.

A. Okay.

Q. I'd like to direct your attention to the third paragraph on page 2. Towards the middle of that paragraph you see the reference to the sounds

expected to be produced by an inverter?

A. Right.

Q. And you're aware that the Angelina Solar Project will include inverters?

A. Right.

Q. Now, at the time that you wrote this report, what information did you have concerning the sound levels that are produced by inverters of the nature that Angelina expects to use in this Project?

MR. SETTINERI: I'd just object as to foundation being laid as to inverters that Angelina expects to use at this Project. There has to be foundation laid as to whether he knows what inverters will be utilized.

ALJ SCHABO: Could you rephrase your question, please?

MR. VAN KLEY: Yeah. Actually Counsel raises a good question that I would like to ask Mr. Hessler which is: Do you know what kind of inverters will be used in this Project?

THE WITNESS: I don't, and that's normal because I don't think they're finalized or sited until a detailed design phase.

Q. (By Mr. Van Kley) So when you evaluate the sound expected to be produced by a project, do

you normally look at the specifications for the project equipment, that is expected to be used, in order to find out what the expected sound produced by that equipment would be?

MR. SETTINERI: I object. Sorry to interrupt a long question. I object to the use of the word "project" and what types of project.

MR. VAN KLEY: I'm speaking generally, his practice generally when he evaluates any potential sound impact. The question is entirely proper.

ALJ SCHABO: He can answer the question.

MR. SETTINERI: I'm just clarifying the record.

A. Yes, and that's why we obtained detailed information on the transformer here because that was known, the MVA rating, and we input that into the analysis and we know where that's going to be and how big it's going to be, so we're able to make projections to the houses and that was that table that we talked about a few minutes ago.

The inverters are kind of undefined so there's no way to specifically model them or calculate the sound from them ahead of time.

Q. In order to model the expected sound from

equipment, you would have to know what equipment is going to be chosen, right?

A. Exactly, and where it is, and so on and so forth.

Q. You didn't have that information for this Project for the inverters.

A. That's correct, nor any solar project that I've worked on, so we have to deal with them in generalities essentially.

Now, you started to ask about what information we had, and that was a study that was done some years ago in Massachusetts where some field measurements were taken at three different solar sites to quantify inverter noise. That study essentially said that the inverters were inaudible around the boundaries of all the projects and any kind of tone or character to the noise was not audible at the boundaries of these projects.

Q. Would you go to page 13 of Exhibit E to the Application. I'd like to direct your attention to the second paragraph on that page. The study that you've just mentioned is also identified in the second paragraph on page 13, isn't it?

A. Yes.

Q. This is a study done for the

Massachusetts Clean Energy Center?

A. Correct.

Q. How far were the boundaries of the projects, analyzed in that study, from the inverters that were studied by that study?

A. They didn't specify but they gave a general site plan in the beginning of the study that shows presumably one of the sites and, in that figure, the inverters are all a minimum of about 400 feet from the site boundaries.

Q. Is it fair to say then that the conclusion in that study was that by the time -- let me start over.

Actually, I think it might be helpful if we could all look at the report that we've been talking about and that's mentioned in your Exhibit E.

MR. VAN KLEY: Your Honor, I'd like to mark this as CCPC Exhibit No. 1.

ALJ SCHABO: I'm sorry, what are we marking that?

MR. VAN KLEY: CCPC, which is the initials, No. 1.

ALJ SCHABO: I'm sorry, what are we marking as CCPC 1?

MR. VAN KLEY: It's the report that is

mentioned on page 13 of his Exhibit E, which is entitled "Study of Acoustic and EMF Levels from Solar Photovoltaic Projects" done for the Massachusetts Clean Energy Center.

ALJ SCHABO: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. (By Mr. Van Kley) Mr. Hessler, I have handed you a document that has been labeled CCPC Exhibit No. 1, entitled "Study of Acoustic and EMF Levels From Solar Photovoltaic Projects." Is this a copy of the study that is referenced in the second paragraph on page 13 of Exhibit E of the Application?

A. Yes, it is.

Q. Okay.

MR. SETTINERI: Your Honor, if I may, given the size of this exhibit, to the extent -- I'd just like to note, to the extent the witness requires time to review the exhibit before questioning, I would ask for that ability.

ALJ SCHABO: Sure, we can.

MR. SETTINERI: That's only if the witness would like that.

ALJ SCHABO: Would you like a moment to look over the exhibit?

THE WITNESS: No, that's okay.

MR. SETTINERI: Thank you.

ALJ SCHABO: Proceed.

THE WITNESS: Thanks though.

MR. VAN KLEY: We already went over this exhibit in the Alamo --

ALJ SCHABO: Okay.

MR. VAN KLEY: -- case, so everybody knows this exhibit already.

MR. SETTINERI: I'd just move to strike that. Irrelevant for this proceeding and for the record.

ALJ SCHABO: I think that's a little friendly banter on the record that can stay.

MR. SETTINERI: Thank you for clarifying that.

Q. (By Mr. Van Kley) Mr. Hessler, can you point to any information in this document that identifies the distance between the inverters studied therein and the boundaries of the project?

A. Well, as I just mentioned, Figure 1, which is seven or eight pages into the document here --

Q. Okay. Would you identify a page number if you have one?

A. Well, it doesn't have one.

Q. You said Table 1 or Figure 1?

A. I said Figure 1. It's after page 1 of the text here.

Q. All right. You can proceed.

A. That's the only site plan that's given in the study to my recollection and it shows what's probably intended to be a typical layout and, at this site, there's four inverters that are centrally located in the four quadrants of the site area and all of them are a minimum about 400 feet from the site boundaries. There's some few dimensions given on here that you can estimate that by.

Q. All right. Redirecting your attention to the second paragraph on page 13 of Exhibit E. You state in here that any noise from these cabinets -- which are the cabinets enclosing the inverters, right?

A. Right.

Q. -- generally drops into the background level and becomes insignificant at a distance of 150 feet. Where do you see information in Exhibit 1 that leads you to the conclusion that I've just paraphrased from paragraph 2 on page 13 of Exhibit E?

A. It would be in the Executive Summary on page iii. I'm just repeating in my report

essentially the conclusion in this report which, down in the bottom of the third paragraph, it says "At 150 feet from the inverter pad, sound levels approached background levels."

Q. And what were the background levels for the projects that were analyzed in Exhibit 1?

A. It varied from site to site of course. At Site 1, it was, on average, 43.9.

Q. Okay. And give us page numbers or figure numbers where you find that information, please.

A. That comes from Table 1 on page 9.

Q. Okay. Just give us a moment to find it, please.

So now we're on Table 1 on page 9 of CCPC Exhibit No. 1, and would you repeat your answer as to the background levels at the project site that is dealt with in Table 1 on page 9?

A. Yes. At Site 1, they measured 43.9 as a background.

Q. All right. Now, with regard to Site 1, is there any information in this report that identifies the sound coming from the inverters at a distance of 150 feet away?

A. Yeah. On the next page, Table 2, if you look halfway down, it says perpendicular to inverter

face at 150 feet, they measured 41.8.

And they tested two inverters here at this site. At the very bottom of the table, the other inverter was 41 at 150 feet.

Q. Staying on Table 2 on page 10 for a moment. The sound from the inverter at 30 feet was at what level?

A. Well, they've got various measurements here in different directions from different inverters. In the first instance, on the third line, they measured 58.8 at 30 feet from one side of one of them and 59.5 from perpendicular to the inverter face.

Q. And then what about the third set of numbers there? For 30 feet where you see 54.8, is that a measurement of inverter sound at a distance of 30 feet from the inverter?

A. Yeah, that must be. Well, that's a measurement of the other unit that they tested there. Parallel, they got 54.8, and perpendicular, 56.3.

Q. And then how about the fourth set of numbers, does that have any information about the sound level from the inverter at any particular point?

A. What fourth set of numbers?

Q. The last four lines on Table 2.

A. Well, the second from the bottom, perpendicular to the inverter face, they measured 56.3.

Q. Okay. Going back to my questions about the inverter sound levels at 150 feet, there's also two more numbers given besides the two that you provided us, right? Looking at the fourth line of Table 2, parallel to inverter face, 150 feet, you have a decibel level of 45.2?

A. Right.

Q. And then the third set of numbers on Table 2, for north east pad parallel to inverter face, 150 feet, you have a decibel level of 43.4?

A. That's correct.

Q. Okay. All right. So we've discussed Site 1 studied in the report that's been marked as CCPC Exhibit No. 1. Are there other sites that were studied and reported in Exhibit 1?

A. Yeah, there's two more sites.

Q. Okay. Take us to the second site and show us where, in the report, we can find information about the decibel levels from the inverters from that site.

A. Okay. At Site 2, there's a table on

page 18 that lists all of the figures at 150-feet and 30-feet that we were just talking about at the other site. So, at this site, they measured 46.2 at 150 feet, and 53.4 at 30 feet perpendicular, and 44.3 dBA at 30 feet parallel to the inverter face. And the reason there's a distinction is because the sound comes out of two sides of the unit, and the ends don't produce any noise.

Q. So what's the inverter face that is mentioned on the tables we've been discussing?

A. Presumably that's the long side where the louvers are; where the cooling air intakes and discharges are.

Q. Is there any information, in CCPC Exhibit No. 1, about the distance to the boundary between the inverters -- from the inverters that were studied in Site 2?

A. There's no site plan, no, but all they say is that at the boundaries of all three sites that they couldn't detect anything. Generally speaking, they said at one or two positions they could hear some faint hum but, at most positions, everything, the entire site, was totally inaudible.

Q. Directing your attention to Table 4 on page 17 of CCPC Exhibit No. 1. Does that table

include information about the background sound level at Site 2?

A. Yes. It says the average was 49.6 there.

Q. So at Site 2 there was 49.6 decibels of background sound available to mask the sound from the inverters at a distance of 150 feet away; is that fair to say?

A. Correct.

Q. In fact, the background level at Site 2, at a distance of 150 feet from the inverter, was 48.6 decibels, right?

A. The 48.6 was measured 150 feet away from the fence of the project.

Q. Okay.

A. That's what they took to be the background was everything 50 feet and further from the fence because they couldn't hear anything from the project at those positions.

Q. All right. There's also a Site No. 3 studied in the report that's been marked as CCPC Exhibit No. 1, right?

A. Yes.

Q. Let's go to page 25. Table 7 on that page shows you the mean background sound level at this site was 42.5?

A. Correct.

Q. And then directing your attention to Table 8 on page 26, the L90-decibel level for the inverters at a distance of 150 feet away was 43.9 perpendicular to the inverter face, right?

A. Yeah, that's right.

Q. At 150 feet from the inverter, parallel to the inverter face, the L90 level was 41.8 dBA, right?

A. Right.

Q. So again, for Site 3 there was enough background sound to mask the sounds from the inverter at a distance of 150 feet away from the inverter, correct?

A. Yes, that was the situation.

Q. Yeah.

And going back to Site No. 1, Table 2 on page 10, there was enough background sound at that site to mask the sounds of the inverter at a distance of 150 feet away from the inverter, correct?

MR. SETTINERI: I just object. Mischaracterizing the study itself in terms of exactly what equipment was on the pads and being measured.

MR. VAN KLEY: I'm sorry, could you

repeat that?

MR. SETTINERI: I'm objecting to your characterization of the study and the equipment that is located on these sites.

ALJ SCHABO: Can you reread his question?

(Record read.)

ALJ SCHABO: Mr. Hessler can correct any mischaracterization, that he feels may have been there, in his answer.

Please answer the question.

A. Yes, yes, there was enough background there that it faded away into the background.

Q. Okay. You can put Exhibit No. 1 to the side for now and go back to Exhibit E of the Application. I would like to direct your attention to page 13, Section 6.0.

A. Okay.

Q. Section 6.0 discusses the sounds expected during construction of the Solar Project, right?

A. Right.

Q. And you state in the first sentence of Section 6.0 on page 13 that "the construction phase of a solar energy facility is remarkably short," correct?

A. That's what I said.

Q. Okay. Do you know how long the construction phase of the Angelina Project is expected to be?

A. I think it's something on the order of nine months to a year, I heard.

Q. Okay. Do you believe that is a time period that is remarkably short?

A. Well, it is compared to the construction of a fossil plant or any other kind of power plant.

Q. Go to page 14 of Exhibit E. I would like to direct your attention to Table 6.0.1. Now, the purpose of this table is to compare some of the sounds from the construction of the Angelina Solar Project to other -- well, actually, let me rephrase that.

The purpose of this table is to provide the decibel levels expected to be produced by equipment used for construction of the Angelina Solar Project, correct?

A. Correct.

Q. So, for example, Table 6.0.1 identifies 85 dBA as the sound level expected from a dozer to be used at the Project, right?

A. Right.

Q. And then you -- in table -- in this table

it states that 84 dBA is expected to be the level of sound coming from a Vermeer PD10 pile driver, correct?

A. Correct.

Q. Do you expect that this type of equipment will be used to install the posts for the solar panels in the Angelina Project?

A. I believe something -- either this type of equipment or something similar is likely to be used, yes.

Q. And then the drill rig truck is stated to have a decibel level of 84 dBA, right?

A. Right.

Q. Is that also a piece of equipment that is used to install posts for solar panels?

A. It can be. There's two different ways to put the posts in, by driving them or by screwing them into the ground. It would be one or the other.

Q. Okay. So the drill rig truck can be used to screw the posts into the ground, right?

A. Yes.

Q. And the Vermeer pile driver can be used to pound them into the ground, right?

A. Right.

Q. Okay. And for all of the decibel levels

we've been discussing that are included in Table 6.0.1, those are the sound levels expected to be heard 50 feet away, correct?

A. Right.

Q. And those sound levels of 84 or 85, that we've been discussing, will occur in an area in which the background sound levels are expected to be typically in the 20 to 35 dBA range, correct?

A. I would characterize the daytime average level as a little higher. We measured about 39 for the Leq there. Construction only occurs during the day.

Q. Well, let's go back to page 5 of your report where we earlier talked about the first sentence in the last paragraph on that page which reads: "What these results generally show is that this environment is extremely quiet with sound levels typically in the 20 to 35 dBA range." Did I read that correctly?

A. Right. But those low levels, the 20s happen at night when there wouldn't be any construction. That's not to say that the background is all that loud during the day either. There's no question that construction noise is going to be audible.

Q. Do you know what the range of background sounds during the daytime are in the Project Area?

A. Yes. If we look at page 5, this shows the sound levels measured over two weeks, 24 hours a day, and there are times when it might be 35 during the day, or up to the high 40s, or over 50 if there's any kind of wind.

Q. All right. Go to page 6 of Exhibit E. I'd like to refer you to Table 3.0.1. If you look at the right-hand column of that table, you see a column labeled "dBA" and, under that, "31.1."

A. That's the average L90. Like I said, that's the level that happens when there's no cars going by, no wind, no birds; totally still.

Q. Okay. So, again, this represents the daytime average --

A. That's correct.

Q. -- sound level, correct?

A. That's correct, yeah.

MR. VAN KLEY: I have no further questions at this time.

MS. BAIR: Your Honor, Staff has a question on cross-examination.

ALJ SCHABO: Proceed.

- - -

CROSS-EXAMINATION

By Ms. Bair:

Q. You have the Application before you, don't you?

A. I've got my report.

Q. I think the Application is there too. I'm going to ask you to go to page 58 of the Application which is in the front of that document that you have, I believe.

MS. BAIR: Does he not? Does he have the Application?

MR. SETTINERI: Yes, he does.

THE WITNESS: I've got lots of stuff here.

MS. BAIR: Page 58.

ALJ SCHABO: Go to the very front, you'll find the narrative.

MS. BAIR: First document.

THE WITNESS: Okay, yeah.

Q. (By Ms. Bair) I'm going to ask you to look at the second full paragraph. In particular, the last sentence in that second full paragraph.

A. Okay, yeah.

Q. That says "The Project will be designed to site the inverters within the solar fields to

ensure they do not cause material, adverse impacts to any sensitive, off-site receptors." Do you see that sentence?

A. Oh. Yes, I see it.

Q. You found it?

A. Yeah.

Q. Can you tell me what "material" means in the context of this sentence?

A. No. I didn't write this summary.

MS. BAIR: Thank you. I have no more questions.

ALJ SCHABO: Any other cross?

Mr. Settineri, do you have any redirect?

MR. SETTINERI: If I may just have a brief moment?

ALJ SCHABO: Yes. Let's go off the record for five minutes.

MR. SETTINERI: Thank you, Your Honor.

(Off the record.)

ALJ SCHABO: Let's return to the record.

Mr. Settineri.

MR. SETTINERI: Yes, just a few questions, Your Honor, on redirect.

- - -

REDIRECT EXAMINATION

By Mr. Settineri:

Q. For the record, Mr. Hessler, we've mentioned L90, daytime L90. Can you explain for the record what is the L90?

A. The L90 is the quietest 10 percent of the measurement period. In this case we did 10-minute intervals so it's the quietest one-minute that happened over that period not necessarily consecutive. It might be a few seconds here and a few seconds there but, all put together, it's the quietest 10 percent.

Q. In regards to references to "daytime L90" and you had provided, I believe, a daytime L90 value. What period is that daytime -- what period does the daytime L90 represent as used in your study?

A. The standard interpretation, which is from 7:00 a.m. to 10:00 p.m.

Q. And in regards to inverters specifically, have you ever been called upon to provide noise mitigation to an inverter for a solar farm?

A. No, I haven't, and that's because noise hardly ever comes up with respect to solar projects.

MR. VAN KLEY: I'm going to object to that answer and ask that it be stricken. It's purely

speculative as to why someone may not have called him to deal with an inverter issue. He's assuming just because he doesn't receive any calls about inverter sound that it must not actually be a problem anywhere, and I think that's a very speculative answer without a foundation.

Maybe there -- maybe the solar people, who may be having problems with noise, don't know that he does this sort of work. It could be any reason why they're not calling him about it.

ALJ SCHABO: I'll grant that after the "No."

Mr. Settineri, you can ask further questions.

MR. SETTINERI: Can I have that --

Q. (By Mr. Settineri) Mr. Hessler, you've been working in acoustics for how long?

A. Close to 30 years.

Q. As part of your acoustic career, do you attend conferences, on a regular basis, on acoustics?

A. Yes.

Q. Have you worked on various -- have you worked on solar projects other than the Angelina Project?

A. Yes.

Q. Have you done so in other states?
A. Yeah; primarily New York.
Q. Okay. And do you regularly review trade journals --
A. Yes.
Q. -- on acoustics?
A. Yes.
Q. All right. Based on your knowledge in the industry and in your opinion, are you aware of any complaints made as to noise related to solar facilities?
MR. VAN KLEY: Objection. There has not been a sufficient factual basis for him to answer this question. Just because he's read some trade journals and attended some conferences on noise, doesn't have any bearing on whether inverter sound is a problem.
ALJ SCHABO: Overruled. He asked in his experience and to his knowledge.
You may answer the question.
A. In my experience I've never heard of any complaints of a solar project. I can't even think of any papers or anything, anybody even talking about solar projects at acoustics conferences.
Q. I don't know if I asked this; I may have.

Have you ever done any form of noise mitigation on an inverter for a solar panel?

A. No.

Q. But if you were, based on your experience, how would you approach that?

A. Yeah, I did do a field survey of an inverter that was operating in a project adjacent to one that we were working on the development of. We were there to do background monitoring and I was able to get access to the site and took detailed measurements of that inverter.

Having had a good look at it, it would be very simple to dramatically reduce the noise from it. It was just built for electrical purposes without any thought to noise whatsoever, but it could easily be retrofitted to just take it off the table as to the noise source.

On that one, the noise was coming from cooling fans from the intake and discharge through some louvers. You could very easily retrofit an acoustical hood on there, which is just a hood that's lined with absorptive fiberglass material, and it would soak up that noise.

And then in the Massachusetts study, some of those units had a very high-frequency whine to

them. That could also be very easily taken care of by adding damping, a damping sheet to the inside of the cabinet panels. All that is is a plastic sheet. You just peel the cover off and stick it on and it dampens the panel.

But for any one of these, I'm sure, it could be dramatically attenuated very easily and inexpensively.

MR. SETTINERI: Thank you, Mr. Hessler.

No further questions, Your Honor.

ALJ SCHABO: Recross?

MR. VAN KLEY: Yes, Your Honor.

- - -

RECROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Hessler, I'd like to direct your attention back to Exhibit E of the Application, page 5.

A. Okay.

Q. Here's the sentence in which the report states that the background sound is typically within the range of 20 to 35 dBA, correct?

A. That's where it says that, yes.

Q. Okay. And are these L90 numbers?

A. Yes.

Q. Okay. Why did you use L90 numbers for this sentence?

A. Because L90 is the most-conservative measure of the background; the lowest level.

Q. Why do -- do acoustic engineers, such as yourself, commonly use the L90 to evaluate the potential impact of sounds?

MR. SETTINERI: I just object. Outside the scope of recross. I just asked what is L90. I didn't ask how it was used or utilized.

MR. VAN KLEY: Well, my question goes directly to Mr. Settineri's intent with regard to that question, which is to show that the use of the L90 is appropriate as a comparison of background sound to the sounds expected from the Project.

MR. SETTINERI: I don't think I disclosed attorney-client work product unless Mr. Van Kley can read my mind. The question and answer was very limited in clarifying the record as to what L90 is; not its use or application. It's outside the scope of redirect.

ALJ SCHABO: Sustained.

Q. (By Mr. Van Kley) So with regard to the L90 metric, the sounds -- a sound measurement in L90 metric measures the sounds -- measures the level at

which the sound is below that level for 90 percent of the time, right?

A. Exactly.

Q. Okay. So for 10 percent of the time, the noise level at L90 will be above the L90.

A. Right.

Q. Okay. How many -- with respect to your observations or your personal experience with how often sounds have been reported as a problem, if at all, how many solar facilities are you aware of that are actually operating in the United States that are 800 acres in size or more?

A. I don't know how many are out there.

Q. Do you know how many are in Ohio that are actually operating at that size?

A. No.

Q. Is it fair to say that large commercial solar facilities, at this point in time, have not been in widespread use throughout the United States?

A. Well, out where I live in southern Utah, there's a lot of huge ones that are probably much bigger than 800 acres and I think they've been there for a while, but I don't have the statistics on how many are out there or when they were built or how many exist or how many are operating, I don't know.

Q. Well, with respect to the solar facilities in Utah, to the extent that you're familiar with them, how close are the inverters at those facilities located to nonparticipating residences?

A. Well, those projects are out in the desert. Nobody lives there.

But I would add, the site that I measured the inverter at that was in New York, at that site people lived across the street from the fence of the project and I'm not aware of any problems there.

Q. Is there anything in your report, that was marked as Exhibit E to the Application, that commits Angelina Solar to mitigating sounds from inverters that prove to be a problem if that ever occurs?

A. I just said in my report that if a problem did arise, retrofit mitigation could easily be applied to fix any -- rectify any situation.

Q. So your report says that it can be done, not necessarily that it will be done.

A. Exactly.

MR. VAN KLEY: No further questions.

ALJ SCHABO: Mr. Settineri.

MR. SETTINERI: Yeah, I just want to make

sure I clear up my own confusion here, Your Honor. Just a quick clarification.

- - -

FURTHER REDIRECT EXAMINATION

By Mr. Settineri:

Q. Going back to the L90. So the daytime L90 for the Project Area background, I believe you stated was 31 dBA.

A. On average, yes.

Q. Okay. Then does that mean, for 10 percent of the time, the sound level will be at 31 dBA or less?

A. I think I misspoke on one of those answers a minute ago. The L90 means the level is louder than that 90 percent of the time. I think I might have had it backwards there.

MR. SETTINERI: No further questions. Thank you, Mr. Hessler.

MR. VAN KLEY: Nothing further.

ALJ SCHABO: Mr. Hessler, you may step down. Thank you.

MR. SETTINERI: Your Honor, at this time, we'd like to move for the admission of Company Exhibit 14 into the record, please.

ALJ SCHABO: Any objections?

Hearing none, it will be admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Mr. Van Kley, will you be moving your exhibit?

MR. VAN KLEY: No, Your Honor.

ALJ SCHABO: Okay. Thank you.

Let's go off the record for a moment.

(Discussion off the record.)

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

We'll take a break until 1:15. We're off the record again.

(At 12:08 p.m. a lunch recess was taken until 1:15 p.m.)

- - -

Thursday Afternoon Session,
August 1, 2019.

- - -

ALJ SCHABO: We're on the record.

Mr. Settineri.

MR. SETTINERI: Thank you, Your Honor, at this time, we would call Mr. Andrew Lines to the stand.

(Witness sworn.)

ALJ SCHABO: Thank you. If you could state your name and business address for the record, please.

THE WITNESS: Sure. Andrew Lines. L-i-n-e-s. 200 South Wacker Drive, Suite 2600, Chicago, Illinois 60606.

MR. SETTINERI: Your Honor, at this time, we would like to mark, as Company Exhibit 15, the Direct Testimony of Andrew Lines.

ALJ SCHABO: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MR. SETTINERI: Copies have been provided to the court reporter, the witness, and the Bench.

- - -

ANDREW LINES

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

DIRECT EXAMINATION

By Mr. Settineri:

Q. Good afternoon, Mr. Lines.

A. Good afternoon.

Q. Do you have before you what's been marked as Company Exhibit 15?

A. I do.

Q. And can you identify that for the record, please?

A. It's my Direct Testimony.

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

A. Correct, it was.

Q. And do you have any revisions to that testimony?

A. I do not.

Q. And are you testifying today on behalf of Angelina Solar I, LLC?

A. Yes, I am.

Q. If I asked you the questions in your testimony today, would your answers be the same as written?

A. They would be the same.

MR. SETTINERI: Thank you.

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

ALJ SCHABO: Mr. Van Kley.

MR. VAN KLEY: Yes, Your Honor.

- - -

CROSS-EXAMINATION

By Mr. Van Kley:

Q. Good afternoon, Mr. Lines.

A. Good afternoon. It's good to see you again.

Q. Good seeing you too. That reminds me that I want to ask you whether the study that you describe in your testimony for this case is the same study that you testified about in the Alamo case.

A. Yes, fundamentally it's the same report.

Q. Okay. Are there any differences between the two?

A. There's a different description of Angelina Solar specifically, outside of what Alamo was.

Q. But there are no differences --

A. The studies themselves as we discussed them with the different solar arrays that we studied

in different states and those conclusions and all the data are exactly the same.

Q. Okay. Thank you. Then I'll be asking you the same questions. Hopefully they're just as good as last time.

All right. Why don't we start with some questions about the solar farms that were included in your study.

A. Okay.

Q. And would you just give me a rundown of the sizes of the solar farms that were included in your study in terms of megawatts and acreage.

A. Sure.

Here we are.

So the first solar farm and surrounding property that we studied was located in Lapeer, Michigan. It was a 27.4-megawatt solar farm situated on approximately 170 acres of land.

Solar Farm No. 2 was in the City of North Branch in unincorporated Chisago County, Minnesota. This is a 100-megawatt solar farm situated over approximately 1,000 acres of land.

Solar Farm No. 3 is in an area outside of Indianapolis in Marion County, Indiana. This was a roughly 12-megawatt solar field over 134 acres.

Solar Farm No. 4 was located in the City of Streator in LaSalle County, Illinois. This was a 23-megawatt project on parcels totaling 160 acres.

Solar Farm No. 5 is located in Fayetteville, North Carolina. This was a 71-megawatt Project on 414 acres.

Solar Farm No. 6 was a 61-megawatt project, located in Forest City, North Carolina, on a 489-acre parcel of land.

No. 7 was a 40-megawatt project on 354 acres in Elm City, North Carolina.

And the final project that we included in this report was a 19-megawatt project in the Isle of Wight in Virginia, on 204 acres.

Q. And what's your understanding with regard to the size of the Angelina Solar Project?

A. My understanding it's about 80 megawatts, over 900 acres, more or less.

Q. So only one of the solar farms that you studied in your evaluation was as large as the Angelina Project is expected to be?

A. There was only one that was larger than what the Project was expected to be, but there were two others that were similar as far as getting close to the megawatts that are expected for the Project.

Q. Which two are those? The 489-acre project would be one of those?

A. So I would say that the two North Carolina, the one that was 71 megawatts and the one that was 61 megawatts are of considerable size as far as electrical output.

I think what makes the subject property unique is that the area is layed out as opposed to being concentrated in one rectangular development. It's spread out over a few counties which helps kind of displace some of the solar fields. In actuality what you end up with is probably a project that looks like a collection of 5- to 10-megawatt projects that are all lined up near each other.

Q. For some of the solar farms that you studied in your study there was a variety of land uses around them; is that right?

A. Correct; agricultural, residential, and sometimes commercial.

Q. And how far away from the boundaries of the solar projects were the homes whose values you've studied located?

A. They range. I would say, at the low end, 100 feet. I've had other studies that were a little bit closer than that, but as low as 100 feet and then

some going up to 420 feet.

Q. Did you have any information concerning the amount of vegetation that was located between the residences whose value you studied?

A. They range and that's important to denote. We conducted several studies and really how we measure the impact is by seeing a discernible, quantifiable, and consistent trend.

And so, what we have here is we have different homes that we studied, which sold on the open market, and those homes that were in test areas located immediately adjacent to solar fields, some had partial views, some had full views, and others had some areas that were somewhat mitigated with either fencing or scrub growth or trees that were planted that might be in between a direct view from the house and an existing pad.

Q. Okay. Would you go to Question and Answer 10 on page 7 of your testimony. In your answer to Question 10, you discuss an evaluation that was done by a local county assessor, right?

A. Correct.

Q. Where was this county assessor located? In Minnesota?

A. Correct. It's about 20 minutes

north-northeast of the Twin Cities.

Q. And this was done by the County Auditor; is that right?

A. That's correct, and he presented his findings in a public forum.

Q. Do you know whether the County Auditors, in the State of Minnesota, are responsible for determining property values?

A. For assessments.

Q. Okay. So the answer is yes?

A. They're responsible for property assessments.

Q. Okay. And those assessments -- do those assessments provide the basis for the amount of property tax being assessed in Minnesota?

A. I would believe so.

Q. Okay. So the County Auditors have some incentive to find that the property values are not being decreased by the presence of solar farms?

MR. SETTINERI: I object. Calls for speculation.

MR. VAN KLEY: It's pretty obvious, I think.

ALJ SCHABO: Could you reread the question, please?

(Record read.)

ALJ SCHABO: You can answer that.

A. I couldn't speculate whether or not they have that desire or don't have that desire. I assume they do their jobs correctly.

Q. Well, if the values of the properties go down, that means that the amount of taxes collected go down, right?

A. If you're asking me if there's a correlation between increases and decreases in property values and the amount of tax paid, that's one part of it.

MR. VAN KLEY: Okay. All right. I have no further questions.

ALJ SCHABO: Mr. Settineri, do you have any redirect?

MR. SETTINERI: Yes.

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REDIRECT EXAMINATION

By Mr. Settineri:

Q. Just one question, Mr. Lines. Have you visited the Project Area?

A. I have.

MR. SETTINERI: Thank you, sir.

No further questions.

ALJ SCHABO: All right. Any limited recross?

MR. VAN KLEY: No.

ALJ SCHABO: All right. Thank you very much, Mr. Lines.

THE WITNESS: Thank you very much.

MR. SETTINERI: Your Honor, at this time, we'd move into the record Company Exhibit 15, the testimony of Andrew Lines, please.

ALJ SCHABO: Any objection?

Hearing none, it will be admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Does that conclude your case, Mr. Taylor?

MR. TAYLOR: Yes, it does, Your Honor.

ALJ SCHABO: Okay. My understanding is we're now going to Staff witnesses?

MS. BAIR: Yes, Your Honor.

ALJ SCHABO: Okay. Ms. Bair.

MS. BAIR: I have an understanding between the parties that there is no cross-examination for Staff Witness Tyler Conklin, nor Derek Collins, nor Jason Cross, so if it is okay with the parties and you, I would like to move those into evidence at this time.

ALJ SCHABO: Let's mark them.

MS. BAIR: Okay. Could we mark Tyler Conklin's as Staff Exhibit 2?

ALJ SCHABO: Yes.

MS. BAIR: Derek Collins as Staff Exhibit 3. Is that okay?

ALJ SCHABO: Yes. Sorry.

MS. BAIR: And Jason Cross as Staff Exhibit 4.

ALJ SCHABO: So marked on all three.

(EXHIBITS MARKED FOR IDENTIFICATION.)

ALJ SCHABO: Do the parties agree with the representation that there's no cross and that the exhibits be stipulated into the record?

MR. TAYLOR: Yes, Your Honor.

MR. VAN KLEY: Yes.

MS. BAIR: Does anyone need a copy?

ALJ SCHABO: Okay. All right. We will stipulate those three exhibits into the record.

(EXHIBITS ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Who would you like to call?

MS. BAIR: Staff would like to call Matt Butler to the stand, please.

ALJ SCHABO: Good afternoon.

THE WITNESS: Good afternoon.

(Witness sworn.)

ALJ SCHABO: Thank you. If you can state your name and your business address for the record, please.

THE WITNESS: Matthew Butler. 180 East Broad Street, Columbus, Ohio 43215.

ALJ SCHABO: Thank you.

- - -

MATTHEW BUTLER

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

DIRECT EXAMINATION

By Ms. Bair:

Q. Mr. Butler, by whom are you employed and in what capacity?

A. I'm employed by the Public Utilities Commission of Ohio as an Administrative Officer 2.

MS. BAIR: Your Honor, at this time, I would like to mark the Staff Report as Staff Exhibit 1, and Mr. Butler's testimony as Staff Exhibit 5.

ALJ SCHABO: So marked.

(EXHIBITS MARKED FOR IDENTIFICATION.)

MS. BAIR: May I approach the witness?

ALJ SCHABO: You may.

Q. (By Ms. Bair) Do you have before you what is marked as Staff Exhibit 5?

A. I do.

Q. And what is this document?

A. This is my Prefiled Testimony.

Q. Was the testimony prepared by you or under your direction?

A. It was.

Q. Do you have any changes, corrections, or additions that you would like to make to Staff Exhibit 5?

A. Not at this time.

Q. If I were to ask you the questions set forth in Staff Exhibit 5, would your answers be the same today?

A. They would.

MS. BAIR: Your Honor, Mr. Butler is available for cross-examination.

ALJ SCHABO: Thank you.

Mr. Van Kley.

MR. VAN KLEY: Yes, Your Honor.

- - -

CROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Butler, you're responsible for

dealing with public communications with respect to the Angelina Solar Project?

A. That's accurate.

Q. Will you continue to be responsible for interaction with the public, related to the Angelina Solar Project, if and when the Certificate is issued for the Project?

A. That would be my expectation.

Q. Do you have experience with other certificated projects in which you have had responsibility for dealing with the public concerning those projects?

A. Yes.

Q. Now, I'd like to direct your attention to the Joint Stipulation and Recommendation that has been marked as Joint Exhibit 1. Do you have that in front of you?

A. I do not.

Thank you.

Got it.

Q. Would you go to page 6 of that Joint Stipulation.

A. I'm on page 6.

Q. Okay. In recommended Condition No. 2, you will see that it is -- that the Applicant will be

required to conduct a preconstruction conference prior to the start of any construction activities. Do you see that?

A. I do.

Q. With regard to preconstruction conferences that are held by the Power Siting Board for projects prior to construction, are those conferences open to the public?

A. I prepared and worked on Conditions 12 through 15, so this is not a condition that I was involved with in the preparation of.

Q. Do you know who was involved, at the Staff level, with Condition 2?

A. Not specifically.

Q. Well, with respect to the other projects in which you've had the responsibility for dealing with the public, have there been preconstruction conferences held for those projects?

A. This is a fairly standard condition from what I understand, so I would expect that yes, that would be the case. I don't know -- myself, I don't generally attend those preconstruction conferences.

Q. Do you know whether preconstruction conferences for any other projects, certificated by the Board, have been open to the public?

MS. BAIR: Objection. Asked and answered.

MR. VAN KLEY: No, I don't think so.

ALJ SCHABO: Go ahead and answer that.

A. I do not know.

Q. Go to recommended Condition 15 in the Joint Stipulation and Recommendation. You'll find it on page 8 of Joint Exhibit 1. Now, this condition refers to a complaint summary report that is due monthly and is submitted by the Applicant, correct?

MR. TAYLOR: I'll just object to that characterization of a monthly report.

ALJ SCHABO: Noted.

MR. VAN KLEY: Yeah, okay, all right. I'll rephrase the question.

Q. (By Mr. Van Kley) Condition 15 refers to complaint summary reports that are submitted to the Board, right?

A. Yes.

Q. Were you responsible for this condition?

A. Yes.

Q. Is there anything in the Stipulation or in the Application that requires the Applicant to make this -- make these reports available to the public?

A. No.

Q. Now, throughout the recommended conditions there are a number of plans that are required to be submitted by the Applicant to the Power Siting Board after the Certificate is issued, correct?

A. I can only speak to the conditions that I worked on, but for those conditions there are several plans that would be submitted after certification.

Q. So, for example, Condition 3 requires the submittal of detailed engineering drawings of the final Project plan, right?

A. I'm not testifying specific to that condition.

Q. Well, I'm just asking you whether your reading of this condition requires that to be done.

MS. BAIR: Your Honor, could I have the question read again, please?

(Record read.)

A. Condition 3 states "The Applicant shall submit one set of detailed engineering drawings of the final project design to Staff at least 30 days before the preconstruction conference."

Q. And this would occur after the Certificate is issued, right?

A. That's correct.

Q. Okay. With respect to any plans that the Certificate would require to be submitted to the Board after the Certificate is issued --

MR. TAYLOR: Your Honor, I again object. There's no foundation that any of these reports need to be submitted to the Board.

MR. VAN KLEY: Well, I think Counsel is quibbling, but I'll rephrase.

Q. (By Mr. Van Kley) With respect to any plans, that the Certificate requires to be submitted to the Staff of the Power Siting Board, does the Board typically issue any public notices informing the public that those plans are available for public review?

MS. BAIR: Objection, Your Honor.

ALJ SCHABO: Basis?

MS. BAIR: Lack of specificity as particular to this witness's testimony. "Plans" is wide open. Could he specify what plans he's directing him to address?

ALJ SCHABO: Let's start with specifics, Mr. Van Kley, and you can attempt to work your way up to generalities.

MR. VAN KLEY: All right. Very good.

Q. (By Mr. Van Kley) All right. So, Mr. Butler, we're going to go through the Stipulation and Recommendation. We've already talked about the engineering drawings of the final Project design in Condition 3. Does the Board issue a public notice, informing the public that those plans have been submitted to the Staff of the Board?

A. I'm not really sure that I can speculate on a question for a case that I don't know -- I don't know the outcome of. I mean, I don't . . .

Q. Well, you've been -- you've already testified you've been involved with other projects that have received Certificates and that you have dealt with the public relations aspects of those projects after the Certificate is issued, right?

A. Yes.

Q. Okay. In any of those other cases has the Board issued a public notice announcing that detailed engineering drawings have been submitted after the Certificate was issued?

A. What do you mean by "public notice"?

Q. Don't you issue public notices in your job?

A. We issue press releases.

Q. Okay. That's not the same as a public

notice?

A. I don't view it the same. We do not issue press releases when an applicant files.

Q. What do you think is a public notice?

A. I think of a public notice is more of something like a letter that would be sent or something that would be posted in a newspaper --

Q. Okay.

A. -- per our, you know, notification requirements on the front end of the process.

Q. Okay. All right. Very good.

Then with regard to final engineering drawings that are submitted after the Certificate is issued, in your past experience has the Board or the Staff of the Board issued any press releases concerning those plans?

A. No.

Q. How about public notices?

A. No.

Q. Okay. All right. Then let's move on to Condition 9. You'll see that Condition 9 requires the Applicant to prepare a Phase I cultural resources survey program. Is this the type of program that, based on your past experience, would be the subject of a press release announcing to the public that such

a program was available for review?

A. No.

Q. How about a public notice?

A. No.

Q. Okay. Let's go down to Condition 11. It states that the Applicant shall prepare a landscape and lighting plan. Is this the type of plan that the Board or its Staff would issue a press release or a public notice informing the public that that plan is available for review?

A. No.

Q. Okay. Condition 12, the Applicant shall provide Staff with a copy of its public information program. Is this the type of document that the department would announce, by press release or public notice, that it is available for public review?

A. No.

Q. Okay. Same questions with regard to the complaint resolution process that is submitted under Condition 13.

A. No.

Q. Same questions with regard to Condition 16 for the Stormwater Pollution Prevention Plan.

A. Not to my knowledge, no.

Q. Same question with regard to Condition 18 and its requirement of the submission of a vegetation management plan.

A. No.

Q. Same question with regard to the requirement in Condition 22 for submitting a construction access plan.

A. No.

Q. Same question with regard to the final traffic plan required by Condition 25.

A. No.

Q. Going to Condition 29. Same question about the comprehensive decommissioning plan that that condition requires to be submitted.

A. No.

Q. Are you responsible for responding to requests for public records submitted to the Board or its Staff?

A. No.

Q. You are not?

A. No.

Q. Who, if anyone at the Board or its Staff, has that responsibility?

A. There's Staff members within our Legal Department. I might take a request in, but then I

would provide it to them to respond.

Q. Okay. Do you have any -- when a public records request comes in, do you have any responsibility for compiling records responsive to that request?

A. Only as directed by the Legal Department.

Q. Based on your experience with the Power Siting Board Staff, can you tell me whether plans, the types of plans that we've just gone through that are required to be submitted after the Certificate is issued, whether those plans are available to the public in draft form to review before the Board or its Staff acts on them?

A. Not to my knowledge, no.

MR. VAN KLEY: I have no further questions.

ALJ SCHABO: Anybody else have cross? Redirect?

MS. BAIR: Can I just have a minute?

ALJ SCHABO: We'll go off the record for a couple minutes.

(Off the record.)

ALJ SCHABO: Let's go back on the record. Ms. Bair, any redirect?

MS. BAIR: I have no redirect, and I

would like to move Staff Exhibit 5 into evidence.

ALJ SCHABO: Any objection to Staff Exhibit 5?

Hearing none, it will be admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ SCHABO: We'll go off the record and take a 15-minute break and see what we can come up with acoustically.

(Recess taken.)

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

Ms. Bair.

MS. BAIR: Thank you, Your Honor. Staff would like to call Robert Holderbaum as its next witness.

ALJ SCHABO: Good afternoon.

THE WITNESS: Good afternoon. Raise your right hand for me.

(Witness sworn.)

ALJ SCHABO: State your name and business address for the record, please.

THE WITNESS: Robert -- Robert Holderbaum. 180 East Broad Street, Columbus, Ohio 43215.

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ROBERT HOLDERBAUM

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

DIRECT EXAMINATION

By Ms. Bair:

Q. Could you please tell us by whom you're employed and in what capacity.

A. I'm employed by the Public Utilities Commission of Ohio as a Utility Specialist 2.

MS. BAIR: Your Honor, I would like to mark Mr. Holderbaum's testimony as Staff Exhibit 6.

ALJ SCHABO: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MS. BAIR: I have provided a copy to you, the witness, and --

ALJ SCHABO: I have a copy.

MS. BAIR: Okay.

ALJ SCHABO: Thank you.

Q. (By Ms. Bair) Do you have Staff Exhibit 4 before you?

ALJ SCHABO: "6."

Q. 6. Sorry.

A. Yes.

Q. And what is that document?

A. My Prefiled Testimony.

Q. Was this prepared by you or under your direction?

A. It was.

Q. Do you have any additions, corrections, or changes that you would like to make to that document?

A. I do not.

Q. If I were to ask you the questions set forth, would your answers be the same as they are in Staff Exhibit 6?

A. Yes.

MS. BAIR: Your Honor, Mr. Holderbaum is available for cross-examination.

ALJ SCHABO: Mr. Van Kley.

MR. VAN KLEY: Yes, Your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Holderbaum, please turn to page 3 of your Direct Testimony. It says, in Answer 4, that you were the Staff subject analyst for the surface waters portion of the Staff Report; is that right?

A. Yes.

Q. Did that include responsibility for dealing with tile issues?

A. Not necessarily.

Q. Okay. Was there another member of the Staff that was responsible for tiles?

A. Yes, though I'm not sure who it was.

Q. All right. Would you -- do you have the Staff Report of Investigation available to look at?

A. Yes.

Q. Okay. Would you turn to page 19 of that Staff Report. I'd like to direct your attention to the first paragraph on that page under the table for vegetation. That paragraph starts with the words "the estimated vegetative impact."

A. Okay.

Q. Specifically I'd like you to look at the second-to-the-last sentence of that paragraph which reads as follows: "The estimated impact to forestland of 0.07 acre is the result of geographic information system (GIS) calculations and actual forest clearing may be more or less."

My question to you is, first of all, were you responsible for drafting this language?

A. Yes.

Q. Next, I need to ask you if you could explain what you meant when you refer to the actual forest clearing may be more or less.

A. Sure. So that number, what we see is that number is usually pretty accurate. We don't want to say that's an exact number in case they end up clearing, you know, .08 or .05 acres of trees, something like that.

Q. So is it your understanding that, given the terms of the Application and the Joint Stipulation, that the Applicant would be allowed to clear more than .07-acre?

A. It depends. I mean, we would review those numbers before they would do it so, I mean, if it was something that we thought was, you know, a significantly greater impact, we would work with them to figure why, see if it was necessary, that type of thing. It wouldn't just be, you know, they throw out a number and get to clear whatever they want.

Q. Are you aware that the Joint Stipulation requires the Applicant to submit a vegetation management plan after the Certificate is issued?

A. Yes.

Q. Would the -- would the amount of vegetation that is ultimately earmarked for clearing be a subject of that plan?

A. I believe so.

Q. So it would be in that plan where the

details for vegetation clearing would be established?

A. Yes.

MR. VAN KLEY: Okay. I have no further questions.

ALJ SCHABO: Any other cross?

Any redirect?

MS. BAIR: No, Your Honor.

ALJ SCHABO: All right. Thank you very much.

THE WITNESS: Thank you.

MS. BAIR: Staff would like to move Staff Exhibit 6 into the record.

ALJ SCHABO: Any objection?

Hearing none, it will be admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Your next witness.

MS. BAIR: Thank you. Staff would like to call Jon Pawley as its next witness, please.

ALJ SCHABO: Good afternoon.

THE WITNESS: Good afternoon.

(Witness sworn.)

ALJ SCHABO: Thank you. Please have a seat, and state your name and business address for the record.

THE WITNESS: My name is John Pawley.

P-a-w-l-e-y. My business address is 180 East Broad Street, Columbus, Ohio 43215.

ALJ SCHABO: Ms. Bair.

- - -

JON C. PAWLEY

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

DIRECT EXAMINATION

By Ms. Bair:

Q. Could you please tell us by whom you're employed and in what capacity.

A. I'm a Staff member with the Ohio Power Siting Board, employed by the Public Utilities Commission. My position is a Utility Specialist 3.

Q. Thank you.

MS. BAIR: Your Honor, may I approach?

ALJ SCHABO: You may.

MS. BAIR: I'd like to have Mr. Pawley's Prefiled Testimony marked as Staff Exhibit 7.

ALJ SCHABO: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

MS. BAIR: Thank you.

Q. (By Ms. Bair) Mr. Pawley, do you recognize Staff Exhibit 7?

A. I do.

Q. And what is that document?

A. That is my Prefiled Testimony.

Q. Was this prepared by you or under your direction?

A. Yes.

Q. Do you have any changes, corrections, or additions to make to this testimony?

A. No.

Q. If I were to ask you the questions contained in Staff Exhibit 7, would your answers be the same today?

A. Yes, they would.

MS. BAIR: Thank you.

Your Honor, Mr. Pawley is available for cross-examination.

ALJ SCHABO: Thank you.

Mr. Settineri, do you have any cross?

Mr. Taylor?

Mr. Van Kley, do you have any cross?

MR. VAN KLEY: Just a little bit.

- - -

CROSS-EXAMINATION

By Mr. Van Kley:

Q. Looking at Answer 7 in your Direct Testimony, that answer states that you're responsible

for Conditions 9 and 11 in the Staff Report, right?

A. Correct.

Q. Condition 11 of the Staff Report deals with lighting, correct?

A. Correct.

Q. And there's also a recommended condition in the Joint Stipulation for lighting; is that correct?

A. Correct.

Q. Okay. And that's Condition 11, right?

A. Yes, sir.

Q. Okay. Now, Condition 11 in the Staff Report and Condition 11 in the Joint Stipulation, both require the Applicant to submit a lighting plan after the Certificate is issued, right?

A. Not necessarily. It's prior to commencement of construction.

Q. Okay. So the Applicant could submit a lighting plan at any time?

A. Correct.

Q. Okay. Based on your information about the Project, is there anything that would prevent the Applicant from submitting the lighting plan at the time it submits its Application?

A. Not necessarily. They could.

MR. VAN KLEY: Okay. I have no further questions.

ALJ SCHABO: Ms. Bair?

MS. BAIR: No redirect.

ALJ SCHABO: Anybody else have -- I don't mean to leave you out.

Thank you very much.

THE WITNESS: Thank you.

ALJ SCHABO: You're done.

MS. BAIR: Staff would like to move Staff Exhibit 7 into the record.

ALJ SCHABO: Any objection to Staff Exhibit 7?

Hearing none, it will be admitted.

(EXHIBIT ADMITTED INTO EVIDENCE.)

MS. BAIR: Thank you.

Staff calls Mr. Bellamy as its next witness, please.

ALJ SCHABO: Good afternoon.

THE WITNESS: Good afternoon.

(Witness sworn.)

ALJ SCHABO: Thank you. Have a seat. If you'd state your name and business address for the record, please.

THE WITNESS: My name is Mark Bellamy.

My business address is 180 East Broad Street, Columbus, Ohio 43215.

ALJ SCHABO: Thank you.

Ms. Bair.

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MARK BELLAMY

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

DIRECT EXAMINATION

By Ms. Bair:

Q. Could you please tell us your employer and in what position you work in.

A. My employer is the Public Utilities Commission of Ohio and the Ohio Power Siting Board.

Q. And what is your position there?

A. My position is a Utility Specialist 2.

MS. BAIR: Your Honor, I would like to mark two exhibits: Mark Bellamy's Prefiled Direct Testimony as Staff Exhibit 9 and Mr. Bellamy's Supplemental Testimony as Staff Exhibit 10.

ALJ SCHABO: Okay. They will be so marked.

(EXHIBITS MARKED FOR IDENTIFICATION.)

MS. BAIR: Thank you.

ALJ SCHABO: Thank you.

Q. (By Ms. Bair) Mr. Bellamy, do you have before you what's been marked as Staff Exhibit 9?

A. I do.

Q. Let's do them together. Do you have before you what's been marked as Staff Exhibit 10?

A. Yes.

Q. Can you please tell us what each of those are?

A. Staff Exhibit 9 is my original Prefiled Testimony, and Staff Exhibit 10 is my Supplemental Prefiled Testimony.

Q. And were these exhibits prepared by you or under your direction?

A. Yes.

Q. Do you have any changes, corrections, or additions that you would like to make to Staff Exhibit 9 or 10?

A. No.

Q. And if I were to ask you the questions contained in Staff Exhibit 9 and 10, would your questions -- would your answers be the same as those in your Prefiled Testimony?

A. Yes.

MS. BAIR: Thank you.

Mr. Bellamy is available for

cross-examination.

ALJ SCHABO: Mr. Van Kley.

MR. VAN KLEY: Thank you, Your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Bellamy, please turn to page 2 of your Prefiled Testimony which is Staff Exhibit 9.

A. Okay. I'm there.

Q. All right. Now, in Answer 6, you stated that you are testifying in support of the Staff Report of Investigation in this case, specifically the noise and agricultural district sections, correct?

A. Yes.

Q. Let's start with noise. Would you please turn to the Application in front of you, the narrative portion, page 58.

A. I don't have the Application in front of me.

THE WITNESS: Thank you.

A. I'm at page 58.

Q. Okay. I'd like to direct your attention to the first paragraph under the heading 4906-4-08(A)(3)(b). Do you see that paragraph?

A. Yes.

Q. And you'll see, starting four lines down in that paragraph, there's a sentence that says "As Hessler notes, the noise that inverters and their associated step-up transformers generate is inaudible at a distance of 50 to 150 feet from the source." Do you see that sentence?

A. Yes.

Q. The next sentence says "The Project will be designed to site the inverters within the solar fields to ensure they do not cause material, adverse impacts to any sensitive, off-site receptors." Do you see that sentence?

A. Yes.

Q. Now, was it part of your responsibility, related to this Application, to review the sentences that I just read to you?

A. Yes.

Q. Is there anything in the Application or in the Stipulation that provides a setback between the inverters that would be installed in this Project and the nearest nonparticipating residence?

A. I'm not sure, but I believe there's a setback that says that the equipment needs to be 100 feet from a nonparticipating residence.

Q. All right. I'll refer you to page 54 of the Application. Please look at the last paragraph on that page and do you see a reference to that 100-foot setback in that paragraph?

A. Yes.

Q. Okay. So is that the only setback, to your knowledge that's included and required by the Application or the Joint Stipulation that would apply to the inverters?

A. That's the only setback with a number.

As you just read on page 58, it says "The Project will be designed to site the inverters within the solar fields to ensure they do not cause any material, adverse impacts to any sensitive, off-site receptors." So that is, in effect, a setback because the inverters have to be sited inside the Project so that they do not cause those impacts.

Q. So when the sentence states that the inverters have to be installed within the solar fields, would it be your interpretation that the inverters can be installed anywhere inside the solar fields as long as they do not cause material adverse impacts to any sensitive off-site receptors?

A. As far as noise goes, that's my understanding.

Q. All right. Does the Application or the Stipulation contain any information that would define what would be regarded as a material adverse impact from noise from an inverter?

A. I'm sorry, you said which documents?

Q. The Application or the Stipulation.

A. Okay. I'm not aware that that is defined.

Q. Okay. So if someone were to -- if an adjoining landowner, that is not participating in the Project, would complain about noise from an inverter, how would you, as a member of the Staff, determine whether that noise or that amount of noise being experienced by the landowner causes a material adverse impact?

A. I can't guarantee how the noise resolution process would be completed because I'm not in charge of its completion but it would be my understanding, when a noise complaint is made, the Applicant is made aware of it, as is Staff, and the Applicant works with the complainer to try to resolve the issue.

If -- if the Applicant agrees that their equipment is making an adverse impact, then they can take steps to mitigate that impact. If the Applicant

disagrees that the equipment is not contributing to any adverse impact, then the homeowner can contract with a noise expert to evaluate the noise and, if necessary, Staff can get involved and help evaluate the noise, also, to make sure that the problem is resolved.

Q. Go to page 20 of the Staff Report, please. Please look at the second-to-the-last paragraph on that page.

A. Yes, I'm there.

Q. All right. It states, at the beginning of that paragraph, as follows: "The Applicant conducted an ambient noise level study in order to understand the existing noise levels near the proposed facility. Noise impacts to non-participating receptors was modeled." Now, that is true only with regard to the substation in the Project, correct?

A. Correct.

Q. No modeling was performed for sound from the inverters, correct?

A. Correct.

Q. Directing your attention back to your Direct Testimony, Exhibit 9, Staff Exhibit 9. I see that Answer No. 9 refers to Condition 16 of the Staff

Report; is that right?

A. Yes.

Q. And that condition deals with drainage tiles, correct?

A. Correct.

Q. Were you responsible for evaluating the information in the Application concerning drainage tiles?

A. Yes.

Q. And are you also responsible, on behalf of the Staff, for Condition 16 of the Stipulation?

A. You're asking if I'm responsible for Condition 16?

Q. With regard to Condition 16 of the Joint Stipulation, were you a Staff member who was responsible for reviewing that condition --

A. Yes.

Q. -- dealing with drainage tiles?

A. I reviewed that condition on behalf of Staff.

Q. Okay. Is there anything in this Condition 16 in the Joint Stipulation that requires the Applicant to consult with adjoining landowners about locations or other information about drainage tiles?

A. Not specifically; however, the condition states that "Damaged field tile systems shall be promptly repaired no later than 30 days after such damage is discovered...." So, as part of the repair, the drain tile contractor will contact whoever they need to in order to make sure the repair is done correctly.

Q. So you're making the assumption that the adjoining landowner would be consulted.

A. I'm making the assumption that the drain tile repair company will contact everyone they need to contact in order to make sure the repair is done correctly.

Q. This condition also requires that the benchmark conditions of surface drainage systems must be documented prior to construction of the Project, correct?

A. Yes.

Q. Is there anything in Condition 16 of the Joint Stipulation or anything in the Staff Report that requires the Applicant to consult with adjoining landowners to learn information about the drainage systems in the area?

MR. SETTINERI: I object. Compound question; Staff Report or Application.

MR. VAN KLEY: I can break them down if Counsel prefers.

MR. SETTINERI: I do.

Q. (By Mr. Van Kley) With regard to the Staff Report, is there anything that would require the Applicant to consult with adjoining landowners during the course of preparing this benchmark conditions report?

A. The Staff Report does not address that.

Q. Okay. Is there anything in the Joint Stipulation that requires the Applicant to consult with adjoining landowners in the process of putting together this benchmark report?

A. Well, the condition says "Benchmark conditions of surface drainage systems shall be documented," so it's my understanding that the Applicant will note all those benchmark conditions that are necessary, around and inside the Project, in order to understand the surface drainage systems, but I am not aware of -- I don't have detailed knowledge of the drainage systems to know, you know, which landowners would be affected.

Q. Are you just making an assumption that the Applicant will consult with adjoining landowners in order to prepare the benchmark conditions report?

MR. SETTINERI: I object to the characterization of it being a report. That's not what the Stipulation says.

MR. VAN KLEY: Well, it does say benchmark conditions will be documented. That sounds like a report to me.

MR. SETTINERI: I'm just clarifying for the record. I'm fine with it.

THE WITNESS: Can you repeat the question?

MR. VAN KLEY: Yeah.

Q. Are you just making an assumption that the Applicant's documentation of benchmark conditions of surface drainage systems will include consultations with adjacent landowners?

A. No. I -- I assume only what the condition states, so I assume that benchmark conditions shall be documented prior to construction and that -- that's what it says.

Q. Okay. So what -- under your reading of Condition 16, what, if any, consultation with adjoining landowners is required by that condition?

A. Whatever is necessary to benchmark the conditions.

MR. VAN KLEY: I have no further

questions.

ALJ SCHABO: Any cross from any other party?

MR. SETTINERI: No.

ALJ SCHABO: Any redirect?

MS. BAIR: No redirect.

ALJ SCHABO: Thank you, Mr. Bellamy.

MS. BAIR: Can I go off the record?

(Discussion off the record.)

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

MS. BAIR: Staff moves Staff Exhibit 9 and 10 into the record.

ALJ SCHABO: Any objection?

Hearing none, Staff Exhibits 9 and 10 will be admitted.

(EXHIBITS ADMITTED INTO EVIDENCE.)

ALJ SCHABO: Your next witness, Ms. Bair.

MS. BAIR: Thank you. Staff calls Andrew Conway as its next witness.

ALJ SCHABO: Good afternoon.

(Witness sworn.)

ALJ SCHABO: Please have a seat. State your name and business address.

THE WITNESS: My name is Andrew Conway, and I work for the Public Utilities Commission of

Ohio at 180 East Broad Street, Columbus, Ohio, 43215.

ALJ SCHABO: Thank you.

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ANDREW CONWAY

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

DIRECT EXAMINATION

By Ms. Bair:

Q. What is your position with the Commission?

A. I'm an Engineering Specialist.

MS. BAIR: Your Honor, I'd like to have marked as Staff Exhibit 10 and 11 --

ALJ SCHABO: 11 and 12.

MS. BAIR: 11 and 12, I'm sorry. 11 is the Prefiled Testimony of Andrew Conway, and 12 is the Supplemental Prefiled Testimony. 11 and 12.

ALJ SCHABO: They will be so marked.

MS. BAIR: Thank you.

(EXHIBITS MARKED FOR IDENTIFICATION.)

Q. (By Ms. Bair) Mr. Conway, could you please tell me what Staff Exhibit 11 is.

A. That's my Prefiled Testimony, Direct Testimony.

Q. And was this prepared by you or under

your direction?

A. Yes, it was.

Q. And could you please tell me what Staff Exhibit 12 is?

A. That's my Prefiled Supplemental Testimony.

Q. And was this prepared by you or under your direction?

A. Yes, it was.

Q. Do you have any changes or corrections to make to either exhibits?

A. No, not to those exhibits.

Q. Do you have any clarifications to make to either of those -- well, if I ask you the questions contained in those, would your answers be the same or do you have any clarifications to make?

A. I have a clarification to make that in page 7 of the Staff Report there's a -- it lists 827 acres. I would like to note that that excludes the laydown area and the substation acreage.

Q. Okay. Could you repeat that page number, please?

A. Page 7.

Q. And what are you specifically discussing, what paragraph? The top paragraph?

A. Yeah, in the first paragraph where it says "827 acres."

Q. That excludes what?

A. The substation and the laydown area.

Q. Thank you.

And with those clarifications noted, if I were to ask you the questions in Staff Exhibit 11 and 12, would your answers be the same today?

A. Yes, they would.

MS. BAIR: Thank you.

Mr. Conway is available for cross-examination, Your Honor.

ALJ SCHABO: Mr. Van Kley.

MR. VAN KLEY: Yes, Your Honor.

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CROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Conway, do you have the Joint Stipulation in front of you, Joint Exhibit 1?

A. Yes, I do.

Q. Okay. Would you go to page 6 of that Joint Stipulation. Before I ask questions about the Joint Stipulation, let me ask you this question which is: You're the Staff lead with regard to the Staff's evaluation of the Application in this case, correct?

A. That's correct.

Q. Will you continue to be the Staff lead with regard to the Staff's oversight of construction and design of the facility after the Certificate is issued?

A. Yes, that's my expectation.

Q. Directing your attention to Condition 2 in the Joint Stipulation. Do you see the reference there to the preconstruction conference?

A. Yes, I do.

Q. Do you expect that you will be the person in charge of that preconstruction conference?

A. For the Staff, yes, I would be in that preconstruction conference.

Q. Okay. So you would participate in the conference.

A. Correct, I would.

Q. Would you be the lead Staff person with regard to that conference?

A. Yes, I would.

Q. Okay. Do you know whether that preconstruction conference is going to be open to the public for its attendance?

A. Generally the preconstruction conferences are not open to the public. It's for the Applicant.

The Applicant holds the conference and it's to -- for the Applicant to direct its contractors and subcontractors to make sure that they follow the -- are aware of the terms of the Certificate and abide by that Certificate.

But in my past experience, members of the public have not been invited, except for law enforcement and first emergency responders.

MR. VAN KLEY: I have no further questions.

ALJ SCHABO: Any redirect?

MS. BAIR: I have nothing.

ALJ SCHABO: All right. Thank you, Mr. Conway.

Ms. Bair.

MS. BAIR: Yes. I would like to move Staff Exhibit 11 and 12 into evidence.

ALJ SCHABO: Are there any objections?

MR. SETTINERI: No.

ALJ SCHABO: Hearing none, Staff Exhibit 11 and 12 will be admitted into the record.

(EXHIBITS ADMITTED INTO EVIDENCE.)

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

(Discussion off the record.)

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

Ms. Bair, that concludes your case-in-chief?

MS. BAIR: Thank you, Your Honor. Yes, we have no more witnesses to call on direct.

ALJ SCHABO: Okay. I believe we'll be adjourned for the day to reconvene on Monday, August the 12th at 10:00 a.m.

Mr. Settineri and Ms. Bair wanted to reserve their right to present rebuttal --

MR. SETTINERI: That is correct --

ALJ SCHABO: -- following the conclusion of Mr. Van Kley's case.

MR. SETTINERI: That is correct, Your Honor. Thank you.

ALJ SCHABO: Okay.

MR. VAN KLEY: Yes, Your Honor, and we would also like to reserve the right of rebuttal to any rebuttal cases put on by the Staff or by the Applicant.

ALJ SCHABO: I've never heard of rebuttal on the challenging side, but I'll think about it.

MR. VAN KLEY: Okay.

ALJ SCHABO: And we can discuss it again on the 12th.

MR. VAN KLEY: Okay.

ALJ SCHABO: All right?

MR. VAN KLEY: All right.

ALJ SCHABO: Anything further?

MS. WEST: No, Your Honor.

ALJ SCHABO: Thank you very much. We're adjourned.

(Thereupon, the proceedings concluded at 2:47 p.m.)

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CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Thursday, August 1, 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.

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Summary: Transcript Volume II - In the Matter of the Application of Angelina Solar I, LLC for a Certificate of Environmental Compatibility and Public Need, hearing held on August 1st, 2019 electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Burke, Carolyn