

In The Matter Of:
McLEAN COUNTY ZONING BOARD OF APPEALS

WIND FARM
January 24, 2018

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1 McLEAN COUNTY ZONING BOARD OF APPEALS
 2 MEETING
 3
 4 Wednesday, January 24, 2018
 5 6:00 p.m.
 6
 7 at
 8 Government Center
 9 115 East Washington Street
 10 Bloomington, Illinois
 11
 12
 13 Case Number SU-17-11
 14
 15 ZONING BOARD MEMBERS PRESENT:
 16 Brian Bangert
 17 Chris Carlton - 1st Alternate
 18 Rick Dean
 19 James Finnigan - Chairman
 20 Michael Kuritz
 21 Mary Beth Taylor - 2nd Alternate
 22 Julia Turner
 23 Drake Zimmerman
 24
 22 Court Reporter:
 23 Brenda Zeitler, CSR-RPR
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 On Behalf of McLean County.
 16 ALSO PRESENT:
 17 PHILIP DICK, Director of Building & Zoning
 18 JERRY STOKES, County Engineer
 19
 20
 21
 22
 23
 24

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1 I N D E X
 2
 3 WITNESSES:
 4 DENNIS HOFF (Presentation) 760
 5 PAUL SCHOMER
 6 Direct Examination by Mr. Luetkehans .. 772
 7 Cross-Examination by Mr. Griffin 804
 8 Redirect Examination by Mr. Luetkehans 826
 9 MICHAEL HANKARD
 10 Cross-Examination by Mr. Luetkehans ... 830
 11 Redirect Examination by Mr. Griffin 861
 12 KEVIN PARZYCK
 13 Cross-Examination by Mr. Luetkehans 879
 14 YALE YOUNG (Presentation) 891
 15
 16 EXHIBITS:
 17 SLG Exhibit Number 1 760
 18 Energy Information Administration
 19 Information
 20 SLG Exhibit Number 2 890
 21 Memorandum of Law Regarding Noise
 22 Emissions
 23 SLG Exhibit Number 3 777
 24 Noise Level Compliance Analysis for
 the California Ridge Wind Energy
 Project
 SLG Exhibit Number 4 772
 Curriculum Vitae of Dr. Schomer
 SLG Exhibit Number 5 783
 Article: A Possible Criterion for
 Wind Farms, 06/17, by Schomer and
 Pamidighantam

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1 EXHIBITS (Continued):
 2 SLG Exhibit Number 6 785
 3 Article "Health Effects from Wind
 4 Turbine Low Frequency Noise &
 5 Infrasound," 01/17, by Hessler,
 6 Leventhall, Schomer, and Walker
 7 SLG Exhibit Number 7 788
 8 11/26/14 "The Results of an
 9 Acoustic Testing Program, Cape
 10 Bridgewater Wind Farm
 11 SLG Exhibit Number 11 848
 12 Illinois Pollution Control Board -
 13 Noise Pollution Control Regulations
 14 SLG Exhibit Number 13 833
 15 IPCB - Charter Hall Homeowner's
 16 Association and Jeff Cohen vs.
 17 Overland Transportation System and
 18 D.P. Cartage
 19 SLG Exhibit Number 19 834
 20 Joint Committee on Administrative
 21 Rules- Part of Sections 900 and 901
 22 SLG Exhibit Number 21 843
 23 IPCB- Gladys and David Knox v.
 24 Turriss Coal Co. and AEI Resources Inc.
 Neutral Exhibit Number 6 900
 Mr. Young's PowerPoint Presentation
 Proposal to Move Turbine #65
 Reporter's Note: SLG Exhibits 16 and 20 were moved
 into the record at page 879, but they are not listed
 on the ZBA's web page as being received, and the
 reporter has no record of them being referred to by
 those numbers.

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1 **CHAIRMAN FINNIGAN:** We're going to bring the
 2 Zoning Board to order. Will the Secretary call the
 3 roll.
 4 **MR. DICK:** Mark Judd?
 5 (No response.)
 6 **MR. DICK:** Brian Bangert?
 7 **MR. BANGERT:** Here.
 8 **MR. DICK:** Michael Kuritz?
 9 **MR. KURITZ:** Here.
 10 **MR. DICK:** Rick Dean?
 11 **MR. DEAN:** Here.
 12 **MR. DICK:** Julia Turner?
 13 **MS. TURNER:** Here.
 14 **MR. DICK:** Drake Zimmerman?
 15 **MR. ZIMMERMAN:** Here.
 16 **MR. DICK:** Jim Finnigan?
 17 **CHAIRMAN FINNIGAN:** Here.
 18 **MR. DICK:** Chris Carlton?
 19 **MS. CARLTON:** Here.
 20 **MR. DICK:** Mary Beth Taylor?
 21 **MS. TAYLOR:** Here.
 22 **CHAIRMAN FINNIGAN:** We have a quorum. This
 23 is a continuation of Case SU-17-11 from last night.
 24 I'm going to have our counsel tell us where

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1 we're at tonight because some people maybe haven't
 2 been here.
 3 **MS. WALLEY:** All right. Good evening ladies
 4 and gentlemen. If my memory is right, we are on night
 5 six. We are in a position right now where the
 6 Applicant has rested their case. We've had several
 7 members of the community testify. We have a sign-up
 8 sheet. We started the signups on January 2, which was
 9 the first hearing. We're working our way forward.
 10 If you were not present on a prior night and
 11 may have been called, once we have completed that
 12 list, we'll circle back once more. That way, if
 13 you're here tonight and there's a chance for you to
 14 testify, we want to give you that opportunity.
 15 Experts, if you are qualified as an expert,
 16 will be given 30 minutes. All others get ten minutes.
 17 There's a handy dandy clock behind me. Unfortunately
 18 there's no buzzer or anything like that. When it goes
 19 off, it's done.
 20 No friendly cross-examination. That was
 21 something the Chairman asked that I discuss. Friendly
 22 cross-examination is referred to as bolstering.
 23 Cross-examination is meant, as I indicated last
 24 evening, to test the veracity or the truth of what

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1 someone says; so you would be challenging that
 2 statement.
 3 If you want to speak in support of what
 4 someone has to say, you are more than welcome to do
 5 that, but that's considered testimony, not
 6 cross-examination. If you want to testify, again, we
 7 encourage you to do so.
 8 All right. We will have the secretary call
 9 the next -- oh, go ahead.
 10 **CHAIRMAN FINNIGAN:** One thing for
 11 clarification. The Board is very willing to hear
 12 anything anyone wants to say, but it's to our
 13 discretion whether we use it for evidence or not.
 14 It behooves you to have your experts testify
 15 because the expert witnesses are the ones we are going
 16 to put the most credibility on. It's our discretion
 17 to use whatever we feel like. We're going to listen
 18 to anything you have to say; but when it comes down to
 19 deliberation, it's going to be on the expert
 20 testimony. I just want you to know that.
 21 **MR. GRIFFIN:** Mr. Chairman, Jim Griffin,
 22 Schain Banks, 70 West Madison Street, Suite 5300,
 23 Chicago, Illinois, 60602.
 24 I just wanted to let the Chairman of the

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1 Board know; yesterday evening you ruled that
 2 Mr. Parzyck would be subject to further
 3 cross-examination. You ruled that Mr. Hankard would
 4 not be, I think based on the fact that he lives in
 5 Wisconsin and isn't subject to subpoena power.
 6 After further consideration of the matter,
 7 Invenergy certainty doesn't want to avoid having
 8 Mr. Hankard be subject to cross-examination merely
 9 because he lives in Wisconsin. He's within our
 10 control, and we've brought him here tonight.
 11 **CHAIRMAN FINNIGAN:** We appreciate that.
 12 **MR. DICK:** The next witness is Cheryl Jolly.
 13 Are you represented by counsel?
 14 **MS. JOLLY:** Yes, I am.
 15 **MR. DICK:** Rebekah Fehr, are you represented
 16 by counsel?
 17 **MR. LUETKEHANS:** Ms. Fehr is not testifying.
 18 **MS. WALLEY:** Is she here?
 19 **MR. LUETKEHANS:** Yes, she is.
 20 **MS. WALLEY:** Are you refusing to testify,
 21 ma'am?
 22 **MR. LUETKEHANS:** Refusing or declining?
 23 **MS. WALLEY:** Well, deferring.
 24 **MR. DICK:** Dwight Shanklin, 100 East Wall,

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1 Lexington.
 2 (No response.)
 3 **MR. DICK:** Dennis Hoff?
 4 (Dennis Hoff sworn.)
 5 **MR. DICK:** Would you state your name and
 6 address and spell your name for the record.
 7 **MR. HOFF:** Sure. Dennis, D-e-n-n-i-s, Hoff,
 8 H-o-f-f. Address 1217 Royal Point Drive, Bloomington,
 9 Illinois, 61704.
 10 **MS. WALLEY:** Mr. Hoff, before you start your
 11 presentation, are you asking to be qualified as an
 12 expert?
 13 **MR. HOFF:** No, ma'am,
 14 **MS. WALLEY:** Would you like your exhibit to
 15 be listed as proponent, an objector, or a mutual
 16 witness?
 17 **MR. HOFF:** Proponent.
 18 **MS. WALLEY:** How many exhibits do you have,
 19 Mr. Hoff?
 20 **MR. HOFF:** Four. They are color coded:
 21 blue, green, brown, and -- perhaps three.
 22 **MR. DICK:** Do you want to call them one
 23 exhibit or four separate exhibits?
 24 **MR. HOFF:** Just one.

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1 **MR. DICK:** We'll call that Supporter's
 2 Exhibit 1.
 3 **MS. WALLEY:** Mr. Hoff, we only received
 4 three. Is that what you're intending?
 5 **MR. HOFF:** Yes. Sorry.
 6 **MS. WALLEY:** That's okay. We just wanted to
 7 make sure we have everything you intended to offer.
 8 **PRESENTATION**
 9 **BY MR. HOFF:**
 10 I'd like to start by saying I've been a
 11 local resident of Bloomington since 1989. I grew up
 12 in Central Illinois except for 18 months.
 13 Currently my position is a union operator
 14 specializing in hydraulic cranes. The majority of my
 15 work has been involved with wind farms or some other
 16 form of energy production. I'd like to make
 17 statements relating just some of the things I've
 18 actually seen firsthand, and I'd like to relay those
 19 to you directly.
 20 I've been involved with seven wind farm
 21 projects, the first being Twin Groves, phase 1. The
 22 second was Rail Splitter near Delevan. The third was
 23 New Providence Wind Farm near Tiskilwa, Illinois. The
 24 next was White Oak wind farm near Carlock. Then

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1 Bishop Hill phase 1 and 2 in Bureau County. And
 2 lastly, Fowler, Indiana, I was involved with putting
 3 monopoles up to connect two substations.
 4 The reason why I bring all that up is
 5 because, in my profession, you have very little leeway
 6 for mistakes. Someone gets hurt or property is
 7 damaged. Also, the rights and responsibilities of our
 8 trade and also the people we work with in cooperation
 9 with the companies and landowners we are involved with
 10 forces us to be responsible and caring workers.
 11 I've been an operator for 13 years, like I
 12 said. What I've seen is a lot of care taken and --
 13 excuse me, I'm kind of losing my train of thought
 14 here. A lot of care has been taken while building
 15 these projects. Planning is very good, at least from
 16 what I've seen.
 17 Any concerns are usually addressed quickly,
 18 and there's been so many of these projects around that
 19 there's quite a few of us who are very efficient and
 20 knowledgeable about the subject. We offer that to all
 21 those willing to consider this area for this type of
 22 work.
 23 Before that, I was employed at Mitsubishi
 24 Motors for 15 years. The only reason I bring that up

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1 is because that factory was state of the art at the
 2 time, and the energy that manufacturing facility
 3 required was basically just electricity. That's what
 4 our world runs on. That power has to come from
 5 somewhere.
 6 I'd like to go to the handouts now, if I
 7 could, starting with blue. Make it easy here.
 8 The providence of these documents is the
 9 EIA, the primary federal government authority on
 10 energy statistics and analysis. It was established in
 11 1974. I've just highlighted basically the most
 12 important things that I thought should be seen here,
 13 starting with this blue document.
 14 Almost all the power plants that were
 15 retired in the past decade were powered by fossil
 16 fuels; and the other part I've highlighted, most of
 17 that consisted of coal power plants.
 18 I'd like to go to the green document,
 19 please. The other half of that, nearly half of the
 20 utility-scale capacity installed came from renewables.
 21 And if you look down there at the bottom where I've
 22 also highlighted, nearly half of that renewable
 23 technologies was wind and solar.
 24 And then finally going to the brown

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1 document, it just lists kilowatt usage. That's, I
 2 believe, a general number for the whole US household
 3 population. I'm pretty certain that's what that
 4 denotes.
 5 I'd just like to say that this power has to
 6 come from somewhere; and, to me, the best option would
 7 be wind. Thank you.
 8 **CHAIRMAN FINNIGAN:** Questions from the
 9 Board?
 10 **MR. ZIMMERMAN:** What part of your overall
 11 work has been related to wind farms the last 13 years
 12 you've been doing this?
 13 **MR. HOFF:** Crane work involved with
 14 installing and maintaining wind towers. I've done
 15 basically everything that's possible to be done with a
 16 hydraulic crane from -- after they dig the hole, of
 17 course, they put the rebar in for the foundation.
 18 Done that. They put the concrete form in. We use a
 19 cage to set the tower on. I've done that. When the
 20 pieces arrive, they have to be laid out, proper
 21 positioning and all that, to be able to be lifted
 22 properly. Done that. I've actually assembled the
 23 tower sections together. Done that. Also putting the
 24 blades to the hub fixture, we did that also.

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1 So like I said, everything except for
 2 putting the hub on top of the tower, that's the only
 3 part I have not done.
 4 **CHAIRMAN FINNIGAN:** So have you worked for
 5 Invenergy before -- I'm not sure exactly -- as a
 6 subcontractor to them or what?
 7 **MR. HOFF:** Yes. I believe White Oak was an
 8 Invenergy project.
 9 **CHAIRMAN FINNIGAN:** So they've been a pretty
 10 good company to work for?
 11 **MR. HOFF:** Yes, sir.
 12 **CHAIRMAN FINNIGAN:** Staff have questions?
 13 (No response.)
 14 **CHAIRMAN FINNIGAN:** Would the Applicants
 15 have questions?
 16 **MR. GRIFFIN:** No, thank you.
 17 **CHAIRMAN FINNIGAN:** Would anyone in the
 18 audience like to question this witness?
 19 State your name and address, please.
 20 **MS. ADAMS:** Katy Adams, 322 West Main
 21 Street, Lexington, Illinois.
 22 How many wind farms have you worked on?
 23 **MR. HOFF:** Seven.
 24 **MS. ADAMS:** Were you ever forced to live

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1 near any of these against your will?
 2 **MR. HOFF:** I've never been forced to live
 3 anywhere I never wished to be.
 4 (Audience Member having
 5 conversation with Ms. Adams.)
 6 **CHAIRMAN FINNIGAN:** We're not going to have
 7 any of that. If it's going to be that way, you're
 8 going to leave.
 9 **MS. ADAMS:** You said that you traveled a lot
 10 for these. Can you tell me why? Is your specialty
 11 turbines, or is your -- like, you're an operator; so
 12 you just didn't feel like you could work here?
 13 **MR. HOFF:** They offered the work, and I took
 14 it.
 15 **MS. ADAMS:** Can I ask why?
 16 **MR. HOFF:** I like it.
 17 **MS. ADAMS:** I mean, that's fair enough. I
 18 had it worded -- I had a question, and now I've lost
 19 it.
 20 I just wanted to find out if you liked it.
 21 I mean, you like working on them, but I guess that's
 22 different. You've never been next to one long term.
 23 Because you've been on them, I just wanted to know,
 24 like, long term, you've never lived next to one or had

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1 to feel it or hear it or anything?
 2 **MR. HOFF:** Well, in the process of putting
 3 them together and taking them apart, sometimes you go
 4 through quite a few hours at that site.
 5 I do a lot of maintenance also, which I
 6 don't know if I mentioned that or not. In fact, last
 7 year that's about all I did was maintenance on wind
 8 turbines in White Oak and Twin Groves.
 9 You do spend a lot of hours out there,
 10 depending on weather conditions which allows you or
 11 doesn't allow you to continue your work. So, yes, I'm
 12 very familiar with the sounds or lack thereof of the
 13 noise they produce.
 14 **MS. ADAMS:** Then you also stated you were
 15 kind of concerned with, like, the carbon footprint --
 16 you didn't use that word -- but efficiency.
 17 Are the vehicles you're using solar?
 18 **MR. HOFF:** Mine is not. It's a
 19 four-cylinder.
 20 **MS. ADAMS:** So you are using the fossil
 21 fuels that you were concerned with in the environment,
 22 are you not?
 23 **MR. HOFF:** I have to get to work, like
 24 everybody else.

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1 **MS. ADAMS:** Okay. Thank you.
 2 **CHAIRMAN FINNIGAN:** Any other questions?
 3 **MS. WINTERLAND:** Amy Winterland. I just
 4 have one question.
 5 **MR. DICK:** Could you give your address,
 6 please.
 7 **MS. WINTERLAND:** Sure. 22825 North, 3075
 8 East Road, Colfax.
 9 So I'm curious. As an operator working on
 10 maintenance, are you trained in, like, finding bird
 11 kills or anything like that?
 12 **MR. HOFF:** I'm not trained in it. I have
 13 seen two. I can corroborate what that gentlemen from
 14 Audubon said at Heartland Community. Those are the
 15 only two I have seen.
 16 **MS. WINTERLAND:** So when you find them, you
 17 report them? There's procedures in place to do that,
 18 I take it?
 19 **MR. HOFF:** We relay that to the techs that
 20 are with us, and they take that straight to the UIM.
 21 **MS. WINTERLAND:** Anyone that's an operator
 22 dealing with maintenance would do the same thing?
 23 **MR. HOFF:** As far as I'm aware.
 24 **MS. WINTERLAND:** I'm just curious. Thank

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1 you.
 2 **CHAIRMAN FINNIGAN:** Any other questions?
 3 One more.
 4 **MR. O'BRIEN:** Tony O'Brien, 103 Oak Street,
 5 Morton, Illinois.
 6 Mr. Hoff, you said that you still do the
 7 maintenance on the towers locally?
 8 **MR. HOFF:** Yes, I do.
 9 **MR. O'BRIEN:** So you live locally, and you
 10 work locally?
 11 **MR. HOFF:** Yes, I do.
 12 **MR. O'BRIEN:** So you receive a pretty good
 13 wage and insurance and benefits?
 14 **MR. HOFF:** Yes. I work in a union.
 15 **MR. O'BRIEN:** And you spend money locally,
 16 whether it be --
 17 **CHAIRMAN FINNIGAN:** That's kind of -- you're
 18 leading.
 19 **MR. O'BRIEN:** Okay. Thank you.
 20 **CHAIRMAN FINNIGAN:** Any other questions?
 21 **MS. BENJAMIN:** Diane Benjamin, 27248 East
 22 1100 North Road, Ellsworth.
 23 You said you worked on the turbines out east
 24 of town by Ellsworth?

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1 **MR. HOFF:** Yes, ma'am.
 2 **MS. BENJAMIN:** How many blades fell off of
 3 turbines last year?
 4 **MR. HOFF:** I do not have that information.
 5 **MS. BENJAMIN:** Are you retrofitting turbines
 6 right now because of faulty -- I think they call them
 7 bearings?
 8 **MR. HOFF:** Yes. There are problems with
 9 some of the bearings.
 10 **MS. BENJAMIN:** If the bearings go bad,
 11 doesn't that make the blades fall off?
 12 **MR. HOFF:** I'm not an engineer. I don't
 13 know about that.
 14 **MS. BENJAMIN:** Well, for the record, there
 15 was one, at least, that I know of the blades fell off.
 16 Thank you.
 17 **CHAIRMAN FINNIGAN:** Any other questions? I
 18 think you better run.
 19 **MR. HOFF:** Thank you.
 20 **MR. DICK:** Phillip Luetkehans?
 21 **MR. LUETKEHANS:** Phil Luetkehans, 105 East
 22 Irving Park Road, Itasca, Illinois.
 23 At this time, we would call Dr. Paul Schomer
 24 to the stand.

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1 **MS. WALLEY:** Mr. Luetkehans, will you be
 2 qualifying Dr. Schomer as an expert?
 3 **MR. LUETKEHANS:** Yes.
 4 **MS. WALLEY:** Did you want to lay the
 5 foundation, or did you want me to?
 6 **MR. LUETKEHANS:** I'll at least lay the
 7 foundation on the CV, et cetera. If you have
 8 particular questions after that, feel free.
 9 (Paul Schomer sworn.)
 10 **MR. GRIFFIN:** We're going to have no
 11 objections to Mr. Schomer's qualifications as an
 12 acoustician. If he gets into health issues as a
 13 physician or medical doctor, we would have an
 14 objection; but as an acoustician, we have no
 15 objections to him being qualified as an expert. Thank
 16 you.
 17 **MS. WALLEY:** Mr. Luetkehans, if we can save
 18 some time, it sounds like the Applicant is wanting to
 19 stipulate to Dr. Schomer's expertise. Will you be
 20 getting into health or medical studies?
 21 **MR. LUETKEHANS:** No.
 22 **MS. WALLEY:** I assume, since he's an
 23 acoustician, it will be about noise and noise levels?
 24 **MR. LUETKEHANS:** Noise levels and the effect

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1 of those.

2 **MS. WALLEY:** Okay. The parties are willing

3 to stipulate to his expertise as an acoustician.

4 **CHAIRMAN FINNIGAN:** Okay. I think we can

5 save a lot of questions by doing that.

6 **MR. LUETKEHANS:** I will say I have his CV.

7 I will hand that out. It's not quite up to date; so I

8 will ask him for about minutes about that stuff and

9 make the CV up to date. I don't want anybody to think

10 we're not telling the truth.

11 **MS. WALLEY:** You are certainly allowed to

12 discuss his qualification if you feel it's relevant

13 and necessary. That's certainly fine.

14 **CHAIRMAN FINNIGAN:** I'm not sure if we swore

15 him in last night or not.

16 **MR. LUETKEHANS:** No, sir.

17 **CHAIRMAN FINNIGAN:** I'm going to do you both

18 then.

19 (Mr. Luetkehans and Mr. Schomer sworn.)

20 **CHAIRMAN FINNIGAN:** State your name and

21 addresses for the record.

22 **MR. LUETKEHANS:** Go ahead, Dr. Schomer. I

23 think just did.

24 **DR. SCHOMER:** My name is Paul Schomer, and

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1 my address is 2117 Robert Drive in Champaign,

2 Illinois.

3 **MR. DICK:** Could you spell your last name,

4 please?

5 **MR. SCHOMER:** S-c-h-o-m-e-r.

6 PAUL SCHOMER,

7 called as a witness by the Opponents, after having

8 been first duly sworn to tell the truth, was examined

9 and testified upon his oath as follows:

10 **DIRECT EXAMINATION**

11 **BY MR. LUETKEHANS:**

12 Q. Dr. Schomer, we've handed out SLG Exhibit 4,

13 which is an old copy of your resume. I just want to

14 point out a couple of modifications to it so nobody is

15 confused.

16 Going to page 2, about the sixth line down,

17 it talks about Standards Director, Acoustical Society

18 of America. You are now the Emeritus Standards

19 Director; is that correct?

20 **A. Correct.**

21 Q. The next line says, "Chairman, Acoustical

22 Society of America Committee on Standards." You're

23 the Emeritus Chairman; is that correct?

24 **A. Correct.**

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1 Q. Next line talks about "Head of U.S.

2 Delegation." You are retired from that position,

3 correct?

4 **A. Correct.**

5 Q. Two lines down starts, "Chairman S.A.E.

6 Construction Site," et cetera, et cetera, and "Member

7 S.A.E." Both of those are no longer current; is that

8 correct?

9 **A. That's correct.**

10 Q. If you go to your major journal

11 publications, they kind of end in 2005. This is my

12 apology. I printed an old one off; so it's my bad.

13 Since 2005, have you published papers on

14 this topic?

15 **A. Yes.**

16 Q. In fact, your updated resume shows probably

17 20 more papers that are proper for your resume?

18 **A. Yes.**

19 **MR. LUETKEHANS:** I don't want to read all of

20 those and take up the time. If it's acceptable to

21 Mr. Griffin, I think he's aware of all of

22 Dr. Schomer's publications. We'll just supplement

23 this tomorrow night with the proper one.

24 Q. Could you just briefly provide the Board

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1 with a history of your qualifications?

2 **A. Well, I worked for 50-some years in**

3 **acoustics. I started in about 1966. I've been doing**

4 **the same sort of thing since then. I've got about 200**

5 **publications, mainly on acoustics.**

6 **I recently got the Distinguished Service**

7 **Award from the Acoustical Society, and I do have a**

8 **Meritorious Civilian Service Award from the Department**

9 **of the Army, which is the second highest award the**

10 **Army gives. I keep plodding along.**

11 Q. Sounds like a career to be proud of.

12 Have you ever represented wind companies in

13 this issue of wind turbines?

14 **A. I've represented wind companies several**

15 **times, a few times.**

16 Q. Have you also testified on behalf of

17 objectors to wind farms?

18 **A. Yes.**

19 Q. Is testifying on behalf of both sides of

20 wind farms common in your industry?

21 **A. It's not very common. I think I'm the only**

22 **one.**

23 Q. You're familiar with the IPCB Standards for

24 Noise, correct?

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1 **A. Pollution Control Board, yes.**
 2 Q. Were you involved in writing those
 3 standards?
 4 **A. I was involved in writing the standards.**
 5 **The basic standard was put together by a consultant.**
 6 **But in defending the standards and bringing them**
 7 **forward, there was a group of four: a professor of**
 8 **economics, two professors in law, and a graduate**
 9 **student, me.**
 10 Q. When was that?
 11 **A. That was about 1968 through about five, six**
 12 **years.**
 13 Q. Are you familiar with, under the IPCB
 14 regulations, what point on a property noise levels
 15 should be measured at?
 16 **A. The Illinois rules say that you can measure**
 17 **anywhere within the property line, but not closer than**
 18 **25 feet to any external noise source.**
 19 Q. So if the noise standard -- or if the noise
 20 level is above the standard at any point on the
 21 property, it would be a violation of the IPCB
 22 regulations?
 23 **A. Yeah. If it violates anywhere on the**
 24 **property, it's a violation.**

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1 Q. And why is that?
 2 **A. Well, people don't live battened up in their**
 3 **houses. Hopefully, they can come outside and**
 4 **entertain outside and have activities.**
 5 Q. Obviously the IPCB standards exist. Are
 6 those the most appropriate standards, in your mind, to
 7 measure noise levels from wind turbines?
 8 **A. As a key member in technical development of**
 9 **the standards, I can say that wind farms were never**
 10 **contemplated and shouldn't be considered part of the**
 11 **standard.**
 12 Q. Why not?
 13 **A. Because they're just different from -- the**
 14 **category they are being put in is factory noise; but**
 15 **factory noise, for the most part, is compulsive**
 16 **hammering or little fans, relatively speaking, on the**
 17 **roof for ventilation or even bigger fans for air**
 18 **pollution, but nothing like a wind turbine.**
 19 **These regulations were written 60 years ago.**
 20 **That's half a century and a decade. I've learned**
 21 **something in those years, and the state of the art has**
 22 **moved forward. The American National Standard, the**
 23 **International Standard on Environmental Noise are all**
 24 **two or three years old, not 60.**

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1 Q. Do Illinois rules protect people from wind
 2 turbines, current Illinois regulations?
 3 **A. I don't believe they protect adequately.**
 4 **They're very inadequate.**
 5 Q. Do the IPCB regulations allow you to average
 6 test results?
 7 **A. The board rules are a one-time. If you**
 8 **break the limit, if you are over the limit in one**
 9 **hour, it's a violation. It's sort of like, in my**
 10 **mind, of a speeding ticket. If you go the speed limit**
 11 **for two hours but speed for ten minutes, you can get a**
 12 **ticket.**
 13 Q. Were you involved in preparing the
 14 California Ridge Study with Mr. Hankard?
 15 **A. Yes, I was.**
 16 Q. Showing you what has been marked as SLG
 17 Exhibit 3. Is that the California Ridge Wind Study?
 18 **A. Yes, it is. It's a weighty study.**
 19 **MR. LUETKEHANS:** For the record, this is
 20 also Applicant's Exhibit, I think, 18?
 21 **MS. WALLEY:** 13.
 22 **MR. LUETKEHANS:** But this is the actual full
 23 set. So I'm going to hand this out or whatever is
 24 easiest for everybody. As Dr. Schomer said, it's a

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1 very heavy study.
 2 Q. Who was that study prepared on behalf of?
 3 **A. I think I was working with Attorney Blazer,**
 4 **I think.**
 5 Q. Who was their client; do you know? Was it
 6 Invenergy?
 7 **A. I believe it was Invenergy.**
 8 **CHAIRMAN FINNIGAN:** Can I interrupt you just
 9 a minute? Pull that just a little closer so we can
 10 hear you a little better.
 11 Q. If you could, look at page 44 of the
 12 California Ridge Study, paragraph 7 in the
 13 "Conclusions" section. Paragraph 7 discusses the fact
 14 that the average of the actual measurements at
 15 California Ridge was two decibels below the limits at
 16 the 1,000 hertz octave band. Do you see that?
 17 **A. Uh-huh.**
 18 Q. Would this, in your opinion, justify
 19 lowering the model by 2 decibels across the board on
 20 this project?
 21 **A. No.**
 22 Q. In your opinion, is there anything in the
 23 California Ridge Study that would justify lowering the
 24 model numbers by 2 decibels across the board at the

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1 1,000 hertz octave band?
 2 **A. No.**
 3 Q. Why not?
 4 **A. Because you're dealing with predictions of**
 5 **contours or isobars of noise, and I think they say**
 6 **that they use ISO -- I forget the numbers of the ISO**
 7 **standard.**
 8 Q. Is it 9613?
 9 **A. Yes.**
 10 Q. Go ahead.
 11 **A. A standard like that is done through many**
 12 **measurements over time. They measure here 2 dB, but**
 13 **they might go down the street and measure somewhere**
 14 **else plus 1 dB. You have to have something that works**
 15 **over time and on average.**
 16 **He's not going to change iso whatever number**
 17 **we said -- he's not going to change that by making one**
 18 **measurement, one site measurement. This has to be**
 19 **developed over time and has to be standardized.**
 20 **That's not something you do on one measurement.**
 21 Q. If you were to put two wind projects right
 22 next to each other, what would that do to the noise
 23 levels?
 24 **A. Well, if there was equal turbines from two**

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1 **companies near to a house, it would go up by about 3**
 2 **dB from what was predicted.**
 3 Q. How long have you been working on noise
 4 issues related to wind turbines?
 5 **A. About ten years.**
 6 Q. Do you have an opinion as to what metric
 7 this Board should be using to judge whether a wind
 8 project is safe for the public?
 9 **A. I would like to see correct measurements**
 10 **made, but the state of the art right now, I feel, is**
 11 **A-weighted measurements. That has the most**
 12 **information and most hooks that you can relate things**
 13 **to. So I would recommend A-weighting right now.**
 14 Q. Do you consider noise from wind turbines to
 15 have the capacity to create concern for human health
 16 and safety?
 17 **A. Yes.**
 18 Q. Why?
 19 **A. First of all, they are a source of**
 20 **annoyance. In acoustics, we measure high annoyance,**
 21 **at least in this country -- and in most countries.**
 22 **And high annoyance is not occasional annoyance or,**
 23 **gee, I'd rather not hear that. It's more of an**
 24 **all-consuming problem. It's just a problem a whole**

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1 **lot of the time.**
 2 **For those people, we term that "high**
 3 **annoyance." And --**
 4 Q. Do you -- I'm sorry. Please continue.
 5 **A. And all noise sources in the United States,**
 6 **public, like airports, highways, factories, and firing**
 7 **ranges are assessed by the percent of people highly**
 8 **annoyed.**
 9 Q. Do others in your field agree with you?
 10 **A. It's widely used. It's in the ANSI**
 11 **standards, in the ISO standards. It's been there for**
 12 **-- since the '50s. It's widely used.**
 13 Q. Does anybody like the World Health
 14 Organization consider this issue?
 15 **A. World Health Organization is considering it**
 16 **and has a definition for well-being and health that**
 17 **includes this annoyance, high annoyance, as a health**
 18 **issue in terms of people's total well-being.**
 19 Q. Do you have a maximum noise measurement you
 20 would suggest as proper to avoid this level of high
 21 annoyance?
 22 **A. Well, what you have is you have a percentage**
 23 **of highly annoyed. And if you go to a higher noise**
 24 **level, that percentage goes up. The way noise is**

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1 **assessed is in terms of -- in essence, it's the**
 2 **percentage of people highly annoyed.**
 3 Q. So -- go on. Please continue.
 4 **A. But in a practical way, I'd recommend in a**
 5 **certain area -- and recently published a paper that**
 6 **explains the recommendations.**
 7 Q. We're going to get to the paper in a second,
 8 Dr. Schomer.
 9 What is the level of dBA or A-weighted that
 10 you would suggest is necessary to avoid high
 11 annoyance?
 12 **A. I've been suggesting 38 to 40 dB.**
 13 Q. How did you come up with that?
 14 **A. Well, I came up with it by applying the**
 15 **American National Standard, which doesn't mention**
 16 **window turbines at all; but it's worked very well.**
 17 **This paper is something that we developed**
 18 **this last six months of last year, and here we looked**
 19 **at four independent sources not related to wind**
 20 **turbines, none of them. Well, one of them was.**
 21 Q. Before you get into that, that's SLG Exhibit
 22 Number 4, that paper you're talking about?
 23 **A. Yes.**
 24 Q. Okay. Please continue. I'm sorry. The

1 four independent sources?

2 A. Yes.

3 MR. GRIFFIN: 5.

4 MR. LUETKEHANS: I'm sorry, SLG 5.

5 A. We looked at four methods for coming up with
6 the noise level that was proper for wind farms, none
7 of them based on wind farms directly.

8 We looked first at Minnesota, who did a
9 survey of what the levels were at wind farms in
10 different jurisdictions mainly in foreign countries
11 and regions of countries. There was about 36
12 respondents; and the average was around 35 dB.
13 Probably only a few were in excess of 40 dB. Clearly
14 40 dB is on the high side.

15 The second way we did it --

16 CHAIRMAN FINNIGAN: We're going to stop the
17 clock so you can take a drink. Take your time. Stop
18 the clock.

19 Why don't you go ahead and take a drink, and
20 then we'll start again?

21 DR. SCHOMER: Okay. Thank you.

22 A. The second way we did it was we used the
23 American National Standards of Environmental Noise.

24 The third way we did it -- and that came up

1 Q. Showing you what has been marked as SLG
2 Exhibit Number 6. Do you recognize this document,
3 Dr. Schomer?

4 A. Yes.

5 Q. Could you advise the Board what that
6 document is?

7 A. This was a document instrumented by George
8 Hessler. George retired ahead of me, which is
9 disappointing.

10 But he's well known in the power industry.
11 The Second person in the group was Bruce Walker, also
12 well known, a theoretician. The third one was -- I
13 always forget his name.

14 Q. Goeff Leventhall, G-o-e-f-f
15 L-e-v-e-n-t-h-a-l-l.

16 A. Leventhall has been the go-to technical
17 person for the wind farm industry for many years --
18 and me. The four of us put together a paper for sound
19 and vibration. George was the one who pushed it and
20 deserves the credit for getting it out.

21 And in there, there's an indication that all
22 of us kind of agree around the value of 40.

23 Leventhall agrees exactly at 40. I think it's a
24 little lower by a couple of dB. George thinks it's 40

1 to 36 to 39 dB.

2 The third way we looked at it was to look at
3 the percent highly annoyed to wind farms as a function
4 of level, A-weighted level, compared with percentage
5 of people bothered to a certain degree for highway
6 noise. We equated those on the basis of the
7 annoyance. And that came up to somewhere around 35 to
8 40 dB.

9 And the fourth way we looked at it, there's
10 a new measure -- I won't go into technical details --
11 called Community Tolerance Limit, CTL. And here you
12 can get the direct decibel difference between two
13 different conditions or environments. And I think we
14 looked at the difference of either air traffic or car
15 traffic or both -- vehicle traffic compared to wind
16 farms. And we came up with a wind farm needing a 16
17 dB penalty.

18 All four of these methods come up with the
19 same thing, 35 to 40; and all of them are independent
20 of the wind farm itself. So I figure that's a pretty
21 strong set of data.

22 Q. Are there any other acousticians that agree
23 with this being the proper maximum level?

24 A. Yes.

1 to 45, and Bruce Walker thinks it's 40 if it's a quiet
2 area.

3 Q. That's dBA, correct?

4 A. That's dBA.

5 Q. I know you can't compare numbers to numbers,
6 but dBA at the 1,000 hertz level is -- would the 1,000
7 hertz level at 40, 41 compare to a dBA of 40, or am I
8 not asking a question that makes any sense? Fair
9 enough. We'll deal with that later.

10 Is Mr. Hessler seen as an anti-wind advocate
11 at all?

12 A. No. All three of the other people have
13 worked with the industry, that I know of.

14 Q. It's clear in your mind that some people's
15 health can be affected by wind turbine noise; is that
16 correct?

17 A. Yes, it is.

18 Q. It's not a huge number though; would you
19 agree?

20 A. I would say it's a very small percentage.

21 Q. Do we really know what causes those
22 problems?

23 A. We know that, at low frequencies around
24 factories -- we know that when wind turbines were

1 **built in a noisy fashion -- there was gas turbine**
2 **engines spread out at low frequencies for stand-by**
3 **power -- that these sources can affect people at**
4 **relatively higher levels.**

5 **My general feeling right now is that we're**
6 **getting, like, the very fringe, 2 Sigma, 3 Sigma type**
7 **of people. One in a hundred, One in a thousand can**
8 **get sick, depending upon if they are just in the wrong**
9 **place at the right time. It's a very small number,**
10 **certainly less than 4 or 5 percent.**

11 **MR. GRIFFIN:** I would object to
12 Mr. Schomer's testimony on people getting sick. I
13 think that's an analysis for a medical doctor or an
14 epidemiologist and that he's not qualified to make
15 that conclusion.

16 Q. Let me ask this question instead. Forget
17 being sick. You have seen studies where people are
18 affected by wind turbines, detrimentally affected by
19 wind turbines, correct?

20 **A. I have been to wind farms where I personally**
21 **have interviewed and talked with people. And there**
22 **are people that I just believe are really bothered in**
23 **terms of, like, nausea, which maybe isn't an illness.**
24 **I don't claim to be a doctor, but I can say what I've**

1 **important intervening variable. It's never been done**
2 **before or since.**

3 Q. What was this study able to see by having
4 that additional information?

5 **A. He was able to see that people were able to**
6 **sense the wind turbines turning on and off, not**
7 **acoustically hear them, not see them, but sense them.**

8 Q. So feel them in some way, shape, or form?

9 **A. Feeling them, yes.**

10 Q. Anything else about this study that we
11 should know?

12 **A. I think that's the main thing, that the**
13 **statement that nobody can sense a wind turbine turning**
14 **on or off -- these were six people, three couples,**
15 **that were particularly sensitive, maybe the 1 percent.**
16 **But they could sense it in terms of, when turbines**
17 **went to high power, they knew it.**

18 Q. So in your experience, you've said a small
19 percentage is affected. With those that are affected,
20 what have you seen, or what are the results or the
21 effects?

22 **A. Well, the most -- the strongest people in**
23 **terms of convincing me that there's something going on**
24 **was one of the families in Shirley, Wisconsin, where**

1 **seen and heard. And there's a small percentage of**
2 **people that are bothered by wind farms worldwide, but**
3 **it's not large.**

4 Q. Are you familiar with Cooper's Study that
5 was done a couple years ago at Cape Bridgewater?

6 **A. Yes.**

7 Q. Showing you what has been marked as SLG
8 Exhibit 7, is this that study?

9 **A. Yes.**

10 **MR. LUETKEHANS:** Sorry, another big exhibit.

11 **MR. SCHOMER:** There will be tests on this
12 tomorrow.

13 Q. Do you consider this an important study?

14 **A. Yes, I do.**

15 Q. Why?

16 **A. Because this, to my knowledge, is the only**
17 **study that was done with a wind farm participating and**
18 **giving them power generation information and what the**
19 **status was of the turbines in the vicinity of the**
20 **houses and elsewhere, as needed.**

21 Q. Why is that important?

22 **A. Because, by having power level generation,**
23 **they were able to see relations that you can't see**
24 **just measuring with a microphone. I think that's an**

1 **it was a husband and wife and small child. The**
2 **husband couldn't -- nothing affected him, but the wife**
3 **and child were affected. They had moved out of their**
4 **house and bought another house or were renting. They**
5 **were paying on their house, but they didn't want to**
6 **sell it and stick some other family with it.**

7 **They weren't interested in a lawsuit. They**
8 **just wanted to have a house. Having somebody pay on**
9 **two houses and not going to a lawyer, that's convinced**
10 **me that something's going on.**

11 Q. Were you always convinced that there was
12 some kind of cause-and-effect there?

13 **A. That convinced me and convinced George and**
14 **convinced Bruce.**

15 Q. That's George Hessler and Bruce Walker?

16 **A. Yeah.**

17 Q. From a scientific standpoint, what would you
18 like to see be required on wind farms that are put in?

19 **A. We really need to be able to get power**
20 **generation data because I have another paper that's**
21 **more theoretical that really looks at this power**
22 **generation as a key. I could go into details that**
23 **would take the next hour, and I have one minute.**

24 Q. But the Cape Bridgewater Study also seemed

1 to relate to power or wind turbines turning on or off,
2 correct?

3 **A. Yes. That's one of a dozen different things**
4 **that I've put together that seem to show what may be**
5 **going on between people and the turbines.**

6 **MR. LUETKEHANS:** I have nothing further.
7 Thank you, Dr. Schomer. I'm sure Mr. Griffin and the
8 Board have some questions for you.

9 **CHAIRMAN FINNIGAN:** Does the Board have some
10 questions?

11 **MR. ZIMMERMAN:** Sure, I'll start. As the
12 turbines go faster and faster, do the decibels change?

13 **DR. SCHOMER:** The decibels change with
14 turbine speed, most certainly. And decibels -- the
15 published data show the turbines going -- the sound
16 going up fairly quickly with speed and then becoming
17 pretty much a constant as the speed continues to go
18 up. A little more direct with power, but I guess the
19 short answer was yes.

20 **MR. ZIMMERMAN:** At what point does it go up
21 to the levels that any of you or your four colleagues
22 are saying is higher?

23 **DR. SCHOMER:** See, that's part of the
24 problem. It's not clear that it's just the acoustic

1 noise?

2 **DR. SCHOMER:** The blade going through the
3 wake would cause noise. That's why the downstream
4 generators were no good.

5 **MR. ZIMMERMAN:** They talked about the
6 feathering? They talked about feathering the blades
7 at the back end. Have you studied that as part of the
8 noise issue?

9 **DR. SCHOMER:** As I said, this is just -- I
10 have not studied -- that's not -- aerodynamics is not
11 my general field.

12 **MR. ZIMMERMAN:** Have you studied the noise
13 levels on any of those blades that have -- I call it
14 -- feathering at the end, which I believe is noise
15 reduction technology?

16 **DR. SCHOMER:** I think that the problem is in
17 the high end, as I said. And I think that they have
18 to be low noise in the high end to be really
19 effective.

20 **MR. ZIMMERMAN:** If they were to cut off the
21 high end -- so on one of the studies we had as
22 evidence for bats, they would not turn -- on certain
23 seasons, the suggestion from the Department of Natural
24 Resources in Illinois is that they would curtail the

1 level.

2 In fact, to me, it -- and it's not
3 revolutions, because the speed that the blades are
4 going around does not directly relate to the power
5 generation. It depends upon how the blades are
6 configured, whether it's power generation or how much.
7 That's part of the reason, I think, that the power
8 generation may be more the key than how fast the blade
9 is going.

10 **MR. ZIMMERMAN:** So you're suggesting that
11 possibly it's the generator itself, the nacelle, as
12 opposed to the blades that might be causing noise?

13 **DR. SCHOMER:** No. I'm saying that, when you
14 have a fan or this sort of thing, the more power you
15 generate or blow, the blades bend; but they don't bend
16 if they're not doing power. You can do 14 RPM and no
17 power, and there's no bending because there's no
18 force. They're not doing anything.

19 But if you're generating power, then there's
20 force against the blades, and they bend. And I think
21 that they're bending into an upstream weight, and
22 that's when the noise comes in.

23 **MR. ZIMMERMAN:** So it's dealing with the
24 wake that is causing the noise or possibly causing the

1 turbine operation below wind speeds of 5 meters per
2 second during a period from July 15 through October
3 15.

4 Well, that's for bats, and that's something
5 different. But in this case, if on the high end the
6 speed were curtailed, what would that do to the noise
7 levels?

8 **DR. SCHOMER:** I can't really say for
9 certain. Sometimes they may seem slower, and they
10 make more noise. I don't know.

11 **MR. ZIMMERMAN:** Okay. Thank you. Are you
12 aware of the Illinois Pollution Control Board
13 reviewing any of the noise standards here coming up in
14 the future?

15 **DR. SCHOMER:** I'm aware. I got one small
16 piece of paper on it.

17 **MR. BANGERT:** In any of your studies, do you
18 measure how the sounds from wind turbines are measured
19 through different building materials and how it
20 affects the wavelengths, the bandwidths? Can you
21 comment on any differences in building materials, say,
22 from inside homes?

23 **DR. SCHOMER:** Would it be better or worse?
24 Is that what you're saying?

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1 **MR. BANGERT:** Yeah. Is there any particular
 2 type of building material that accentuates any
 3 particular type of noises?
 4 **DR. SCHOMER:** These are all low frequency
 5 noises, which are pretty much the hardest to
 6 attenuate. There's some relatively new absorbing
 7 materials with micro-perforated openings that can go
 8 down to lower frequencies than a normal absorber would
 9 for the same size, and those could be used to
 10 advantage. They could disrupt resonance better.
 11 That's where I would start.
 12 The low frequencies just -- for what I'm
 13 talking about now and just a few minutes ago with
 14 problems, it's in the audible range, around 20 hertz
 15 to 80 hertz sound. You just don't normally attenuate
 16 that except with mass. So if you want to build your
 17 house with 12-inch concrete walls, you can do
 18 something.
 19 **MR. BANGERT:** We've heard about the
 20 differences in the direction of the wind. Obviously
 21 the windmills that are in the direction of the
 22 predominant winds, we would see a difference.
 23 Downwind we wouldn't notice them as much, and
 24 obviously upwind we would.

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1 What are your thoughts on setbacks when
 2 we're talking about homes in relation to siting?
 3 **DR. SCHOMER:** First of all, I have to say
 4 that the contours and the decibel level is what I
 5 recommend as the way to assess and not a distance
 6 criteria.
 7 Having said that, we've been pretty much
 8 recommending a kilometer or just over a kilometer,
 9 3,300 feet roughly, something on that order.
 10 **MR. BANGERT:** Let me get this straight.
 11 You're saying topographically we've got more influence
 12 than in distance, or am I misunderstanding?
 13 Topographically, elevations or undulating ground, are
 14 you saying that has a bigger effect than the actual
 15 distances?
 16 **DR. SCHOMER:** No, no. Maybe I misunderstood
 17 your question. I thought you were asking, in lieu of
 18 using 40 dB, what you would recommend as a distance
 19 criteria.
 20 **MR. BANGERT:** Yeah, let's go with that.
 21 **DR. SCHOMER:** What I was suggesting is that,
 22 given flat ground, it would be 3,000 or a little over
 23 3,000 a few hundred feet.
 24 **MR. DEAN:** What about on a more rolling

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1 landscape? Is there a difference?
 2 **DR. SCHOMER:** Everything affects sound.
 3 Most of it you can't predict precisely. You can just
 4 hope the averages work out.
 5 But as a general rule, it's going to be
 6 quieter in the valleys and louder up high. But when
 7 you have a source up high, it kind of radiates down
 8 into the valleys. If you put your wind turbines down
 9 in the valley, they'll be quieter; but I don't think
 10 they'll have much wind.
 11 **MR. KURITZ:** So all of this is done
 12 beforehand on computer modeling because obviously they
 13 have to have the studies before we can -- before we'll
 14 let them erect wind turbines. So how good is the
 15 modeling?
 16 **DR. SCHOMER:** So what? How good are the
 17 contour -- I think the contour predictions are pretty
 18 good. I think that this is true in all the noise
 19 sources. The physical prediction is easy. It's
 20 predicting people that's hard.
 21 **MS. TURNER:** Have any of your studies or any
 22 of these that we've talked about influenced the
 23 numbers for pollution control boards in our state or
 24 other states? You said ours haven't changed in 50

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1 years. You said you worked on it in '68. But do you
 2 know if any of these studies have impacted other
 3 Pollution Control Boards' numbers?
 4 **DR. SCHOMER:** Well, I know I helped a few
 5 communities in New York in terms of -- I don't know if
 6 they're never going to get a wind farm, but they
 7 haven't gotten one yet. But I don't really know.
 8 **MS. TURNER:** Okay. Do you know how
 9 Illinois's numbers compare to other states, whether
 10 they're higher or lower, the Pollution Control Board
 11 numbers for allowable decibels?
 12 **DR. SCHOMER:** For regular noise, Illinois?
 13 **MS. TURNER:** Yeah.
 14 **DR. SCHOMER:** They're pretty comparable.
 15 **MR. ZIMMERMAN:** A question on more than one
 16 turbine happening at the same time. You talked about
 17 a kilometer setback. If there were two turbines a
 18 kilometer apart but close to the same place, what
 19 impact would that have on the decibel level? If you
 20 have two turbines going at the same time, how much
 21 impact does that have on the perceived noise?
 22 **DR. SCHOMER:** Well, there's a lot of
 23 caveats. First of all, say there's something near a
 24 house, right? And then there's two turbines a

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1 kilometer away or, let's say, a mile away from the
 2 house. In modeling, they would each contribute the
 3 same amount of power so that the power would be
 4 increased by 3 decibels. A doubling of power is 3
 5 decibels.
 6 **MR. ZIMMERMAN:** How does that attenuate? As
 7 it goes away, is it on a log scale?
 8 **DR. SCHOMER:** Pretty much a logarithmic
 9 scale, the scaling of distance.
 10 **MR. ZIMMERMAN:** So if you have it a
 11 kilometer away, the noise is much larger than if you
 12 have it a mile away?
 13 **DR. SCHOMER:** A kilometer away would be
 14 about 5, 6 dB louder than a mile away.
 15 **MR. ZIMMERMAN:** Okay. Thank you.
 16 **MS. TURNER:** You said that, in your studies,
 17 you talked to different people who lived near wind
 18 farms as you were out talking; is that correct?
 19 **DR. SCHOMER:** I talked in Shirley and a few
 20 other people. I haven't extensively talked with
 21 people at wind farms.
 22 **MS. TURNER:** Okay. So you haven't
 23 extensively talked to people who lived within, but you
 24 had said that there was one family that was paying on

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1 the two houses. How many other people did you talk to
 2 when you were -- and that was at Shirley, correct?
 3 **DR. SCHOMER:** That was at Shirley. I think
 4 there were six other people.
 5 **MS. TURNER:** Six other people you spoke with
 6 there?
 7 **DR. SCHOMER:** Yeah.
 8 **MS. TURNER:** When you were doing those
 9 studies, when you were going around, was the community
 10 aware that you were there doing the studies?
 11 **DR. SCHOMER:** Well, yeah, people were aware.
 12 **MS. TURNER:** Okay. Thank you.
 13 **CHAIRMAN FINNIGAN:** Any other questions from
 14 the Board?
 15 **MR. KURITZ:** Any of the groups that you
 16 belong to, are they lobbying for these changes, trying
 17 to get the governing boards, the state governing
 18 boards, to adopt these and upgrade these standards?
 19 **DR. SCHOMER:** What do you mean? Could you
 20 clarify that?
 21 **MR. KURITZ:** Any of the acoustical
 22 associations that you listed that you were a member of
 23 or had been chairman of in the past and have retired
 24 from, are any of those lobbying state governing boards

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1 to change these setbacks, these acceptable dB levels,
 2 and these type of things to bring this in line?
 3 **DR. SCHOMER:** In general, ANSI standards
 4 don't set limits. They set methods of doing things.
 5 And the ISO only sets methods for doing things, not
 6 limits.
 7 In Europe, the EC, they're kind of
 8 aggressive in setting limits. In the US, we're a
 9 little more laid back.
 10 **MR. ZIMMERMAN:** How do the European
 11 standards, the limits, compare to ours?
 12 **DR. SCHOMER:** Well, in that report, there's
 13 about 30-some jurisdictions, a lot of them European,
 14 that say what it is; and I don't remember them one
 15 from another.
 16 **MR. ZIMMERMAN:** That would be the California
 17 Ridge report or the Australian report?
 18 **MR. LUETKEHANS:** Neither. He doesn't have
 19 the report. I was trying to clean it up. He doesn't
 20 have them in front of him.
 21 **MR. SCHOMER:** This is 5. Does everybody
 22 have 5?
 23 **MR. LUETKEHANS:** Yeah.
 24 **MR. ZIMMERMAN:** So the Acoustics '17 Boston

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1 report would give some of those European standards?
 2 **DR. SCHOMER:** This is page 6 of the Exhibit
 3 5. The blue lines represent quieter communities.
 4 This is the limits, and you can see the average limit
 5 of 36 dB. I guess, if you've got a magnifying glass
 6 -- no, it's pretty clear -- Germany is at 36. Spain
 7 is at, looks like, 48. New Brunswick is at 25, 26.
 8 British Columbia is at -- well, you can read those.
 9 Well, maybe you can.
 10 **MR. ZIMMERMAN:** Actually I can. Is this
 11 across the board, or is this at a particular hertz?
 12 **DR. SCHOMER:** These are the rules in those
 13 jurisdictions.
 14 **MR. ZIMMERMAN:** Thank you very much for
 15 getting these for us.
 16 **MR. LUETKEHANS:** Just for clarification, I
 17 think you're talking hertz levels, and he's talking
 18 dBA. Those are not similar at all. You'll see that
 19 later.
 20 **MR. ZIMMERMAN:** I understand.
 21 **CHAIRMAN FINNIGAN:** Does staff have
 22 questions?
 23 **MR. DICK:** In your recommendation to have a
 24 setback of 3,300 feet, was that for a 500-foot turbine

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1 or a 400-foot turbine?
 2 **MR. SCHOMER:** I don't have anything to
 3 differentiate the two. The dBA is going to be not so
 4 sensitive to those dimensions. Those dimensions will
 5 affect -- I don't want to go into too much physics,
 6 but my general feeling is that the blade area is going
 7 to affect the power. You double the blade area; you
 8 double the power. Maybe that's naive, but that's what
 9 we found with helicopters.
 10 I also -- if you just double the size, you
 11 don't get that much change that quickly. Doubling
 12 size to doubling power is quite a big change in power
 13 for what might be a few decibels in sound. So I don't
 14 have any -- can't tell you the difference between 4
 15 and 500, but I don't think we know it precisely.
 16 **MR. DICK:** Thank you.
 17 **CHAIRMAN FINNIGAN:** Would the Applicant have
 18 questions?
 19 **MR. GRIFFIN:** Could I get a five-minute
 20 recess before I start?
 21 **CHAIRMAN FINNIGAN:** Sure.
 22 (Recess in proceeding.)
 23 **MR. GRIFFIN:** I'm Jim Griffin with the law
 24 firm of Schain Banks, 70 West Madison Street, Suite

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1 5300, Chicago, Illinois, 60602.
 2 Mr. Schomer, my name, of course, is Jim
 3 Griffin. I'm the attorney for the Applicant on this
 4 project. I'm going to ask you a few questions here.
 5 **CROSS-EXAMINATION**
 6 **BY MR. GRIFFIN:**
 7 Q. Mr. Hankard, you know, prepared the noise
 8 model report for this project, correct?
 9 **A. Uh-huh.**
 10 Q. You should say yes.
 11 **A. Yes.**
 12 Q. You've collaborated with Mr. Hankard on
 13 other projects, correct?
 14 **A. Correct.**
 15 Q. How many projects have you collaborated with
 16 Mr. Hankard on?
 17 **A. I think two, but I could be wrong.**
 18 Q. In your opinion, is Mr. Hankard a competent
 19 and qualified professional acoustician?
 20 **A. Yes.**
 21 Q. Would you agree he's highly qualified?
 22 **A. Yes.**
 23 Q. You agree that Mr. Hankard is knowledgeable
 24 about how to prepare a noise model study?

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1 **A. Yes.**
 2 Q. Have you reviewed the noise modeling report
 3 prepared by Mr. Hankard in this application?
 4 **A. Yes.**
 5 Q. And did you prepare your own noise modeling
 6 report for this matter?
 7 **A. No.**
 8 Q. Have you done your own modeling study
 9 concerning this wind energy project?
 10 **A. No.**
 11 Q. Mr. Hankard testified that the project will
 12 operate in compliance with the IPCB regulations.
 13 You've not done any study that would confirm or deny
 14 that conclusion, correct?
 15 **A. Yes.**
 16 Q. You have done a study?
 17 **A. No. I'm agreeing with you. I've not.**
 18 Q. Thank you for clarifying that.
 19 So you don't dispute any of the conclusions
 20 that Mr. Hankard makes in his report?
 21 **A. Yes, I do dispute the conclusion.**
 22 **CHAIRMAN FINNIGAN:** Pull the mike towards
 23 you a little bit more.
 24 **A. I think that the fact that he predicts the**

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1 -- the prediction has to be done using the standards
 2 and not using the standard minus 2 dB. I disagree
 3 with that. I don't disagree that he measured that. I
 4 don't disagree with his predictions, but I disagree
 5 with his correction.
 6 Q. Are you aware that McLean County has adopted
 7 the Illinois Pollution Control Board Regulations as
 8 its standard for wind energy conversion systems?
 9 **MR. LUETKEHANS:** Objection. First of all,
 10 it's only partially true. It's an incomplete
 11 question, and it's a legal question.
 12 **CHAIRMAN FINNIGAN:** It's just a yes-or-no
 13 question. If he feels qualified to answer it, he can
 14 answer.
 15 **MS. WALLEY:** Would you like Mr. Griffin to
 16 repeat the question for you?
 17 **THE WITNESS:** Yeah. Repeat the question.
 18 Q. Let me back up a little bit. Have you read
 19 the McLean County Zoning Ordinance as it pertains to
 20 wind energy conversion systems?
 21 **A. I have not.**
 22 Q. So do you know what the standard is for
 23 noise for a wind energy conversion system in McLean
 24 County?

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1 **A. Are they called standards? I'm not familiar**
 2 **with the number.**
 3 Q. You spoke about suggesting that the maximum
 4 dBA for a wind farm should be approximately 39; is
 5 that correct?
 6 **A. 39. I would even agree to 40.**
 7 Q. Do you know whether any project in the state
 8 of Illinois meets that standard?
 9 **A. I don't know.**
 10 Q. You also recommended a 3,000-foot
 11 residential setback; is that correct?
 12 **A. Correct.**
 13 Q. Do you know whether any project operating in
 14 the state of Illinois meets that standard?
 15 **A. I do not know.**
 16 Q. Do you know whether or not those standards
 17 that you opined upon -- do you know whether or not
 18 those would prevent any wind energy project from being
 19 developed in the state of Illinois?
 20 **A. Could you break that down, that question?**
 21 Q. Sure. Do you know whether or not the noise
 22 standard that you believe is appropriate, that 39 to
 23 40 dB -- do you know whether or not adopting such a
 24 standard in the state would prohibit all wind energy

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1 projects from being built in the future?
 2 **A. I don't know that at all.**
 3 Q. Do you know whether it's possible to build a
 4 project in the state of Illinois with a 3,000-foot
 5 residential setback?
 6 **MR. LUETKEHANS:** Objection, asked and
 7 answered.
 8 **CHAIRMAN FINNIGAN:** I think he can answer
 9 that. I don't know.
 10 **MR. GRIFFIN:** I broke the question into the
 11 dB, and then this is the setback question. I broke it
 12 in half.
 13 **MR. LUETKEHANS:** Mr. Griffin's first
 14 question was both, actually.
 15 **CHAIRMAN FINNIGAN:** If you want to answer
 16 the question, go ahead. You don't have to if you
 17 don't want to.
 18 **THE WITNESS:** I don't want to answer.
 19 Q. Have you investigated any noise complaints
 20 in the state of Illinois by residents within the
 21 footprint of a project?
 22 **A. I can't remember. I've talked to people in**
 23 **different places, but I can't remember where.**
 24 Q. Have you conducted any noise investigation

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1 concerning wind energy projects in the state of
 2 Illinois besides the California Ridge one that you
 3 testified to?
 4 **A. I think I worked for some other groups. I**
 5 **did one for the wind company and some others for**
 6 **communities, but I can't tell you what communities.**
 7 Q. Were these companies or communities in
 8 Illinois?
 9 **A. Some in Illinois, some elsewhere.**
 10 Q. Which projects have you worked on in the
 11 state of Illinois?
 12 **A. I can't remember.**
 13 Q. Are you aware whether or not there's been
 14 noise complaints by residents that live within the
 15 White Oak project in McLean County?
 16 **MR. LUETKEHANS:** Objection, beyond the
 17 scope.
 18 **CHAIRMAN FINNIGAN:** He hasn't testified to
 19 anything about White Oak, I don't think; so I don't
 20 think he has to answer the question.
 21 **MR. GRIFFIN:** Well, he testified about
 22 discussing noise complaints with people. I'm trying
 23 to identify the location of those and the scope.
 24 **MR. LUETKEHANS:** He only testified to that

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1 on cross-examination. It was not brought out on
 2 direct.
 3 **CHAIRMAN FINNIGAN:** We're getting into a
 4 subject -- I mean, I think it's his discretion if he
 5 wants to answer it.
 6 **MR. GRIFFIN:** Well, doesn't the Board want
 7 to know how many Illinois residents have complained
 8 about noise that he has knowledge of? He's advocating
 9 you change the standards. I mean, what's the basis
 10 for that?
 11 **MR. LUETKEHANS:** He's not advocating any
 12 change in standards. He's advocating what is for the
 13 health and safety of the public. He didn't testify
 14 about any investigations in this. It's only been on
 15 cross-examination brought up by Mr. Griffin.
 16 Maybe I should have objected earlier, but I
 17 was trying to give him some leeway.
 18 **CHAIRMAN FINNIGAN:** I think, if you rephrase
 19 the question, you might get an answer. Just ask where
 20 he actually talked to people.
 21 Q. I think that was the question. Have you
 22 actually talked to people that live within the White
 23 Oak project in McLean County about noise?
 24 **MR. LUETKEHANS:** Same objection.

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1 **CHAIRMAN FINNIGAN:** I don't know if it's
 2 important to you. I think he testified that he's
 3 talked to different people. Where they are, I don't
 4 know. I'm not sure he knows, is what he told you
 5 **MR. LUETKEHANS:** He's already testified he
 6 doesn't recall what community. You can go through 100
 7 communities, and it's not going to change that.
 8 **CHAIRMAN FINNIGAN:** So I don't know that
 9 you're going to get the answer you want.
 10 **MR. GRIFFIN:** I respect that, Mr. Chairman.
 11 It's just, as you said, he said he's talked to many
 12 people. I'm trying to identify where those people are
 13 at and whether any of those are in McLean County or
 14 the state of Illinois.
 15 **MR. LUETKEHANS:** His answer has already been
 16 there were times he talked to people in Illinois, and
 17 he doesn't recall what communities. I don't know how
 18 much more we can ask him to do. If he doesn't recall,
 19 he doesn't recall.
 20 **CHAIRMAN FINNIGAN:** Would you just answer
 21 that question, and we can move on. I think we're
 22 going to have to get this taken care of.
 23 **DR. SCHOMER:** I have to say that I can
 24 forget a person's name inside of ten minutes. I've

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1 had students work for me where I didn't get their name
 2 right for months. So I'm not going to get the names
 3 right here. I don't know.
 4 **CHAIRMAN FINNIGAN:** I don't think he's
 5 asking for names. Just in an area.
 6 **DR. SCHOMER:** He said White Oak. I wouldn't
 7 know where White Oak is or what it is.
 8 **CHAIRMAN FINNIGAN:** You answered the
 9 question. That's fine.
 10 Q. Mr. Schomer, I've got a list of wind energy
 11 projects that are in Illinois. If I handed that to
 12 you and asked you to identify whether you've spoken
 13 with people that have noise complaints about those
 14 projects, is that a question you can answer?
 15 **A. I don't think a list of names is going to**
 16 **help me.**
 17 Q. This would be a list of projects. Would
 18 that help you?
 19 **A. No.**
 20 Q. All right. So as you sit here right now,
 21 you can't recall discussing noise complaints with any
 22 Illinois resident about a wind energy project in
 23 Illinois?
 24 **MR. LUETKEHANS:** Objection to form. He's

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1 already answered. He can recall having conversations.
 2 He doesn't recall the specifics of the names or the
 3 projects.
 4 **CHAIRMAN FINNIGAN:** We're getting into a
 5 slippery slope, I think. I think he said that he had
 6 talked to people in Illinois but doesn't know where
 7 they -- doesn't remember where they were. I think
 8 that's the answer you're going to have to go with.
 9 Is that true?
 10 **DR. SCHOMER:** That's true.
 11 **CHAIRMAN FINNIGAN:** So I think that's what
 12 we're going to go with.
 13 **BY MR. GRIFFIN:**
 14 Q. You testified concerning Shirley, Wisconsin.
 15 How many people were involved in that study?
 16 **A. How many acousticians?**
 17 Q. How many residents? Thank you for
 18 clarifying that.
 19 **A. It seemed to me we met with a group of 40 or**
 20 **50 people.**
 21 Q. How many people were part of the study?
 22 **A. I think -- part of the study? We made**
 23 **measurements at the three houses that are listed in**
 24 **the report. There was four of us doing the**

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1 **measurements in the program at Shirley. Is that what**
 2 **you want?**
 3 Q. That's sufficient. Now, what you did in
 4 Shirley -- you don't recall doing anything like that
 5 for any Illinois project, correct?
 6 **A. It seems to me, in Oregon, we dealt with two**
 7 **or three households, and that was 100 percent of the**
 8 **households there.**
 9 Q. You're referring to the state of Oregon, not
 10 the city of Oregon, I assume?
 11 **A. Yeah, the state of Oregon.**
 12 Q. So you recall doing studies in Oregon and
 13 Wisconsin, but you don't recall doing any in Illinois,
 14 correct?
 15 **A. Not like those, no. Well, Oregon was pretty**
 16 **much on the physical side.**
 17 Q. You also testified about the proper place of
 18 measurement under the Illinois Pollution Control Board
 19 Regulations, correct?
 20 **A. Correct.**
 21 Q. You understand that there's a land use
 22 classification system that determines what the decibel
 23 levels are, allowable decibel levels?
 24 **A. It's a land use classification system, very**

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1 **detailed.**
 2 Q. You understand that a property can have more
 3 than one land use classification, correct?
 4 **A. I don't pretend to be a lawyer.**
 5 Q. So I take it you're not familiar with the
 6 Knox versus Turriss, Illinois Pollution Control Board
 7 decision, 2003, Westlaw 137447?
 8 **A. No, I'm not familiar with that.**
 9 Q. And you're not familiar with the decisions
 10 in that case on measurement locations under the
 11 Illinois Pollution Control Board Regulations?
 12 **MR. LUETKEHANS:** Objection. He's already
 13 said he's not familiar with the case.
 14 **CHAIRMAN FINNIGAN:** Next question.
 15 **MR. GRIFFIN:** That's all the questions I
 16 have. Thank you very much.
 17 **CHAIRMAN FINNIGAN:** Thank you for your
 18 patience.
 19 Would anyone in the audience have questions
 20 of this witness?
 21 **MR. PITZER:** Jim Pitzer, 29485 East 2100
 22 North Road, Colfax, 61728.
 23 **MR. DICK:** Could you spell your last name?
 24 **MR. PITZER:** P-i-t-z-e-r.

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1 Doctor, you testified that there is -- I
 2 think you used the term "annoyance," that there's an
 3 audible annoyance to these things that have,
 4 sometimes, physical effects on human beings; is that
 5 correct?
 6 **DR. SCHOMER:** That's correct.
 7 **MR. PITZER:** Do you think that that would
 8 also apply to wildlife? Do you think, since their
 9 senses are somewhat more acute than ours, that the
 10 audible levels and the other sensory things would
 11 affect wildlife in an adverse way?
 12 **DR. SCHOMER:** I've not studied wildlife
 13 enough to --
 14 **CHAIRMAN FINNIGAN:** It's beyond the scope
 15 too. We didn't talk about wildlife.
 16 **MR. PITZER:** Well, you talked about adverse
 17 noise effects. I just thought I'd ask the question.
 18 **CHAIRMAN FINNIGAN:** You tried.
 19 **MR. PITZER:** All right. I tried. We're all
 20 about annoyance here, you know.
 21 **MR. HARTKE:** My name is Theodore Hartke,
 22 H-a-r-t-k-e. Address is 117 Southeast Avenue, Ogden,
 23 Illinois, 61859.
 24 Forgive me if I have a couple of repeat

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1 questions that have been already asked.
 2 Dr. Schomer, as a clarification, did you
 3 testify in Livingston County for perhaps a 3,300 foot
 4 setback in your analysis of Invenergy's project
 5 layout, which was near Fairbury and Forrest?
 6 **DR. SCHOMER:** I think I recall that.
 7 **MR. HARTKE:** Would you be willing to prepare
 8 a model or a study to predict which homes would be
 9 unprotected in this McLean County project proposed by
 10 Invenergy?
 11 **DR. SCHOMER:** I don't do contour myself.
 12 I've always left that for groups that have people do
 13 that.
 14 **MR. HARTKE:** Would you prepare a similar
 15 report or analysis with the help of other experts
 16 which would be similar to what you prepared for
 17 Livingston County when they were trying to establish
 18 setbacks in some of those townships?
 19 **DR. SCHOMER:** I'm really trying to get
 20 retired.
 21 **MR. ZIMMERMAN:** I think that's a no.
 22 **MR. HARTKE:** In this county, do you think it
 23 would be appropriate to take Invenergy's current
 24 layout of wind turbines and then provide a report

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1 prepared by an acoustician based on the
 2 recommendations that you've made which would show how
 3 many homes would be protected versus unprotected?
 4 **DR. SCHOMER:** Are you talking about the
 5 distance?
 6 **MR. HARTKE:** Distances or noise level.
 7 Similar to what you did for the Livingston County
 8 hearings to establish setbacks for some of those
 9 townships.
 10 **DR. SCHOMER:** I would be willing to have
 11 somebody qualified do this and me be the reviewer.
 12 **MR. HARTKE:** Okay. That's good.
 13 Should Mike Hankard's noise analysis for
 14 this project -- should his analysis be relied upon to
 15 keep residents safe from excess noise levels?
 16 **DR. SCHOMER:** Not with the levels and
 17 distances chosen.
 18 **MR. HARTKE:** Okay. Do you know -- earlier
 19 you testified about some kind of a soundproofing. Do
 20 you know of any successful soundproofing against wind
 21 turbine low frequency noise or infrasound, any
 22 commercially available material, or have you ever
 23 heard of that being successful anywhere?
 24 **DR. SCHOMER:** Not that I know of. But I

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1 don't know of any that have been not successful
 2 either. I just don't really know that much about
 3 what's been done.
 4 **MR. HARTKE:** Earlier you mentioned 12-inch
 5 thick concrete walls, a 12-inch thick concrete wall
 6 home. Would that have to have no windows, or could
 7 you have 12-inch thick walls and have windows and
 8 still protect people from low frequency noise?
 9 **DR. SCHOMER:** With a 12-inch wall, you could
 10 have double or triple windows, and it has the
 11 potential. With not-so-large windows, it could work.
 12 **MR. HARTKE:** So 12-inch thick concrete walls
 13 with small windows might work?
 14 **DR. SCHOMER:** Two or three sets of windows
 15 in an opening.
 16 **MR. HARTKE:** Okay. So 12-inch thick
 17 concrete walls with small windows with two or three
 18 windows set within that wall would help soundproof?
 19 **DR. SCHOMER:** Well, get rid of more low
 20 frequencies. I don't know if that's necessary or not.
 21 **MR. HARTKE:** Forgive me if this is a repeat.
 22 I want to phrase it a certain way.
 23 Is the IPCB standard adequate to protect
 24 citizens in this particular Invenergy McLean County

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1 wind turbine project?
 2 **DR. SCHOMER:** I don't feel it's accurate for
 3 that purpose.
 4 **MR. HARTKE:** So you feel that the IPCB
 5 standard is improper for this project?
 6 **DR. SCHOMER:** It's not proper for a wind
 7 farm. We never talked about it in 1968.
 8 **MR. HARTKE:** Tonight, you said that the
 9 sound measurement microphone could be anywhere on the
 10 property. If a resident would not allow the
 11 microphone at or inside their home for the
 12 measurements, do you think that that resident was
 13 right --
 14 **CHAIRMAN FINNIGAN:** We're getting out of the
 15 scope of what his -- you're asking a specific question
 16 that doesn't pertain. It's to your case that you were
 17 talking about last night.
 18 **MR. HARTKE:** Is it proper to have the noise
 19 microphone at the property line when measuring turbine
 20 noise to respond to a complaint?
 21 **DR. SCHOMER:** What I was saying was, under
 22 the Illinois law, if you're trying to show a
 23 violation, you can go anywhere on the property. "The
 24 property," in my mind, has always been something like

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1 five acres.
 2 When you get above five acres, it's only the
 3 five acres around the house. This comes in
 4 occasionally as a question. Most of the time you are
 5 in a town or a city, and you're dealing with a half
 6 acre or this sort of thing.
 7 But in my mind, you don't have a 600-acre
 8 farm and say that's all residence.
 9 **MR. HARTKE:** Okay. Is the Mike Hankard
 10 2-decibel adjustment that's been mentioned a couple of
 11 times -- is the Mike Hankard 2-decibel adjustment
 12 fair? Would it cause harm to citizens here since that
 13 2-decibel adjustment was included in his analysis?
 14 **DR. SCHOMER:** Well, Mike's analysis, as I
 15 said, doesn't change the computer prediction. All of
 16 the contour research -- you find this kind of
 17 variation in the research; and if you try to take out
 18 something that's there to begin with, you screw up the
 19 answers.
 20 When they do attitudinal surveys to find
 21 percents of people, you do it with computer
 22 predictions for the most part. And so your answers
 23 line up with the computer predictions. Then you use
 24 measurements for validating that the predictions were

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1 reasonable.
 2 I think Mike has done that. He's got a
 3 computer prediction which should be used, and the
 4 extra 2 dB gives us confidence that his prediction
 5 will work.
 6 But to say, "Here, I've got a 2 dB change;
 7 so I'm going to change the annoyance pattern" --
 8 that's not justified.
 9 That's sort of complicated. But that's the
 10 way it's done and been done for 50 years.
 11 **MR. HARTKE:** Okay. I think this is a
 12 yes-or-no question.
 13 When Mike Hankard applied a 2 decibel
 14 adjustment in this case, was that proper or improper?
 15 **DR. SCHOMER:** I think it's improper, but I
 16 don't know if I'd use the word "improper." I was
 17 looking for another word.
 18 **MR. HARTKE:** I have some words.
 19 Would you categorize Hankard's 2 decibel
 20 adjustment in his noise analysis -- would you
 21 categorize that as misleading?
 22 **DR. SCHOMER:** No. I'd just say it was
 23 inaccurate.
 24 **CHAIRMAN FINNIGAN:** You're getting into

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1 testimony now. Ask a question.
 2 **MR. HARTKE:** "Inaccurate," is that what you
 3 want to call it?
 4 **DR. SCHOMER:** Inaccurate, I believe.
 5 **CHAIRMAN FINNIGAN:** Let's just go with that.
 6 **MR. HARTKE:** I don't expect you to know this
 7 answer, but I'm going to try.
 8 What percent of Invenergy's McLean County
 9 project -- what percent of the residents in this
 10 project that was proposed do you think might have
 11 excessive noise?
 12 **DR. SCHOMER:** I have no idea.
 13 **MR. HARTKE:** When Mike Hankard presented the
 14 California Ridge Noise Study to the Vermilion County
 15 Board, when he was presenting it, he said that he
 16 disagreed --
 17 **CHAIRMAN FINNIGAN:** We haven't talked about
 18 that at all.
 19 **MR. HARTKE:** We talked about the California
 20 Ridge Project.
 21 **CHAIRMAN FINNIGAN:** Oh, you said something
 22 about somewhere else.
 23 **MR. HARTKE:** The Cal Ridge project was in
 24 Vermilion County.

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1 **CHAIRMAN FINNIGAN:** Vermilion County, okay.
 2 **MR. HARTKE:** When he presented the
 3 California Ridge Study to that county board, Michael
 4 Hankard said that you and Mike disagreed on some
 5 items.
 6 Can you remember what those disagreements
 7 were specific to the noise study near the Hartke and
 8 the Miles family home at the California Ridge project?
 9 **DR. SCHOMER:** I can't remember something I
 10 disagreed with; so I guess the answer is no.
 11 **MR. HARTKE:** Is it a mistake to allow
 12 Invenergy's wind turbines to be placed 1,500 feet from
 13 the nearest residence here in McLean County?
 14 **DR. SCHOMER:** I think so.
 15 **MR. HARTKE:** Do you anticipate there will be
 16 problems occurring here in McLean County due to the
 17 noise from turbines?
 18 **DR. SCHOMER:** Problems come at different
 19 levels. To use just the word "problems" is a problem.
 20 **MR. HARTKE:** Do you anticipate some levels
 21 of noise complaints will occur on Invenergy's McLean
 22 County wind turbine layout due to the noise?
 23 **DR. SCHOMER:** I anticipate that there will
 24 be some level of annoyance. Higher annoyance, there

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1 will be smaller numbers. Less annoyance, higher
 2 numbers. But there will be some annoyance.
 3 **MR. HARTKE:** That's all the questions I
 4 have. I didn't mean to cut you off. If you were
 5 finishing, I'm sorry I cut you off.
 6 **DR. SCHOMER:** Beyond that, that there will
 7 be levels of annoyance, I wouldn't predict what else
 8 would happen.
 9 **MR. HARTKE:** I have no further questions.
 10 Thank you very much.
 11 **MR. LUETKEHANS:** I have just, I guess, one
 12 clarification and then a question for the Board.
 13 What I didn't see is: Is there redirect or
 14 not? There is? Okay.
 15 However, I'm not really trying to redirect.
 16 Mr. Hartke asked a question that was kind of a
 17 combination of two different things, and I want to
 18 make sure it's very clear on Dr. Schomer's behalf.
 19 Dr. Schomer -- and he can confirm this --
 20 Dr. Schomer did not testify in Livingston County
 21 against the Invenergy project. In fact, he refused
 22 because he represented Invenergy in Livingston County.
 23 The project that Dr. Schomer or Mr. Hartke
 24 was talking about was actually a text amendment

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1 hearing that was after the Invenergy hearing. So he
 2 did not ever testify against Invenergy in that
 3 hearing. There was a later text amendment done in
 4 Livingston County, the change of setbacks to 3,250.
 5 That's what Dr. Schomer testified in.
 6 I just want to make that very clear; so that
 7 Dr. Schomer, who didn't work for Invenergy at the
 8 time, does not have some problem with conflict,
 9 because he did not testify against Invenergy. I think
 10 Invenergy understands that, but I just want to make
 11 that clear for the record so in the future we don't
 12 have a problem.
 13 As far as redirect -- I'm sorry -- is there
 14 anybody else? I didn't mean to -- I apologize.
 15 **CHAIRMAN FINNIGAN:** We're still in the
 16 question mode. Any more questions from the audience?
 17 Will you come forward?
 18 (No response.)
 19 **CHAIRMAN FINNIGAN:** I don't see anybody out
 20 there.
 21 **REDIRECT EXAMINATION**
 22 **BY MR. LUETKEHANS.**
 23 Q. Dr. Schomer, a report like what Mr. Hankard
 24 did, do you have any idea how long that would take to

1 prepare?

2 **A. To prepare again --**

3 Q. You've seen Mr. Hankard's report, his
4 analysis in McLean County on this project?

5 **A. Yes.**

6 Q. Do you have a handle on how long something
7 like that takes to prepare?

8 **A. I really don't. He works pretty fast.**
9 **Other groups, I don't think work quite as fast. I**
10 **just don't know the number.**

11 Q. How long would something like that take you
12 to prepare, I guess is the question.

13 **A. Forever.**

14 **MR. LUETKEHANS:** On that note, I have
15 nothing further.

16 **MS. WALLEY:** Mr. Luetkehans, do you have any
17 other witnesses after Dr. Schomer?

18 **MR. LUETKEHANS:** We have other items to
19 bring up, but I think -- I can't think of the right
20 word now. To be appropriate, I think we would
21 probably ask that Mr. Hankard be cross-examined at
22 this point just so that I know he does not have to
23 come -- so we're not leaving him staying overnight
24 more than he has to, if at all possible. I think that

1 H-a-n-k-a-r-d, 211 East Verona, V-e-r-o-n-a, Avenue,
2 Verona, Wisconsin, 53593.

3 **CHAIRMAN FINNIGAN:** We do appreciate you
4 coming down.

5 **MR. LUETKEHANS:** And I remembered the word.
6 I was trying to be considerate. How about that? It's
7 not something I do very well.

8 I do have a question. Maybe it's for the
9 Chairman and/or Ms. Walley as well. Do I have to
10 introduce exhibits into evidence or just the fact they
11 are referred to and handed out? I mean, do I need to
12 say at this point: We would ask that, you know, SLG
13 Exhibits 3 through 7 be admitted into evidence. I
14 guess that's the question.

15 **MS. WALLEY:** It's sort of up to you. You
16 can do it -- I believe, when the Applicant did it,
17 they used all the exhibits, and then they admitted
18 them at the end. We can admit them in the beginning.
19 If you want them to be considered, make sure they're
20 identified on the record if that's your intention.
21 But however you see fit to do so is up to you.

22 **MR. LUETKEHANS:** Okay. At this time, we
23 would ask that SLG Exhibits 3 through 7 -- so I don't
24 forget -- are introduced into evidence.

1 would be what I would ask at this time since they
2 brought Mr. Hankard in for that purpose.

3 **CHAIRMAN FINNIGAN:** That's fine with us.
4 Mr. Schomer, you can turn your mike off. You're out
5 of the hot seat. We really appreciate you coming.
6 I'm sure it's an inconvenience.

7 I think I'm supposed to call Mr. Hankard
8 over.

9 **MS. WALLEY:** I'm going to let you know
10 before we start, if you turn on more than three mikes
11 that are on the table, the next mike will turn green.
12 It won't record. So as best as you can, if we're
13 asking questions or if you're not talking, turn it
14 off. That way we can preserve the record if we should
15 need it. We do post our audio on line for all to
16 listen to; so if you can, try to be cognizant of that.

17 **CHAIRMAN FINNIGAN:** Just for the record, you
18 were sworn in at the start of the meetings when you
19 testified; so we're still going to figure that you're
20 sworn in.

21 **MR. HANKARD:** Sounds good.

22 **CHAIRMAN FINNIGAN:** Okay. Thank you. We do
23 need your name and address though for the record.

24 **MR. HANKARD:** Sure. It's Michael Hankard,

1 **CHAIRMAN FINNIGAN:** We'll consider those
2 entered.

3 **MR. LUETKEHANS:** Thank you.

4 **MR. KURITZ:** We never got 4.

5 **MR. LUETKEHANS:** 4 was Dr. Schomer's CV.
6 I'm going to update that. Hopefully, if I remember,
7 when I get to the office tomorrow, I'll update it for
8 you. But that's what it was. I think you pretty much
9 have a handle on his qualifications; so I'm not real
10 worried about it at this time.

11 **MICHAEL HANKARD,**
12 a witness previously called by the Applicant, having
13 been previously sworn to tell the truth, was examined
14 and testified upon his oath as follows:

15 **CROSS-EXAMINATION**
16 **BY MR. LUETKEHANS:**

17 Q. Mr. Hankard, are these turbines larger than
18 the others that are already in McLean County; do you
19 know?

20 **A. I do not know specifically what other**
21 **turbines are in McLean County.**

22 Q. Okay. You utilized ISO 9613 for your
23 analysis, correct?

24 **A. Correct.**

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1 Q. That ISO 9613 is regularly used by experts
 2 in your field to make predictions of this type,
 3 correct?
 4 **A. It is.**
 5 Q. IPCB regs are not based on averages over
 6 several hours, are they?
 7 **A. The Illinois Pollution Control regs are**
 8 **based on one hour.**
 9 Q. But not on the average of different hours,
 10 correct?
 11 You can't exceed -- if I exceed -- let's use
 12 1,000 hertz, for example. If I exceed 1,000 hertz for
 13 one hour at 43 and the next hour I'm at 37, the IPCB
 14 regs don't allow you to average those and say that
 15 that site is at 40 for those two hours, does it?
 16 **A. That's right. It does not.**
 17 Q. Just trying to make it clear.
 18 I think we're all in agreement that your
 19 study took -- as far as the 1,000 hertz level -- and
 20 I'm only pretty much going to talk about that; so if I
 21 don't say it, that's what we're talking about. If you
 22 don't understand me, please tell me. I know you're
 23 pretty good at that?
 24 **A. Okay.**

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1 Q. You took 2 decibels off the modeling on this
 2 project at the 1,000 hertz band based on a four-month
 3 study you did, correct?
 4 **A. It's based on that study and others that**
 5 **I've conducted subsequently.**
 6 Q. The four-month study that you referred to in
 7 your PowerPoint -- or didn't refer to -- is the
 8 California Ridge Study, correct?
 9 **A. Yes.**
 10 Q. I noticed that study was not put into the
 11 evidence in your original direct, was it?
 12 **A. I am not sure.**
 13 Q. Fair enough. Did you perform the tests in
 14 California Ridge in strict compliance with IPCB regs?
 15 **A. Yes, we did.**
 16 Q. You set up five different noise emission
 17 monitors for that Cal Ridge study; is that correct?
 18 **A. There were the two primary ones, and there**
 19 **were some others. If it's in the report as five, I**
 20 **would agree with you.**
 21 Q. I think I have some testimony in the past
 22 that you said five. But it's four or five; is that a
 23 fair statement?
 24 **A. It's somewhere in that range, yes, it is.**

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1 Q. It doesn't matter if it's four or six. It
 2 was multiple. How is that?
 3 **A. Yes.**
 4 Q. However, you nor anyone else was constantly
 5 visually watching all the monitors involved, were you?
 6 **A. That's right. They were unattended, for the**
 7 **most part.**
 8 Q. Showing you what has been marked SLG Exhibit
 9 13. This is an IPCB decision entitled Charter Hall
 10 Homeowner's Association versus Overland Transportation
 11 System. I won't add the cite.
 12 Bringing your attention to page 14 of this
 13 decision -- has everybody got it? I'm sorry.
 14 **A. I don't find the pages numbered.**
 15 Q. They are really light in the bottom right.
 16 **A. I think I have it, yes.**
 17 Q. Second full paragraph. The last three
 18 sentences starts with "Part 951 requires." Do you see
 19 that?
 20 **A. Yes.**
 21 Q. Do you see where it says, "Part 951
 22 requires, among other things, that the person taking
 23 sound measurements be present while measurements are
 24 being taken to look and listen for extraneous sound

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1 sources and varying wind conditions that may affect
 2 the data." Is that what that says?
 3 **A. It does.**
 4 Q. And then it cites 951.105(c)(7)?
 5 **A. Yes.**
 6 Q. Now, 951.105 has been repealed or just put
 7 somewhere else in the IPCB regs, correct?
 8 **A. I don't know specifically.**
 9 **MR. LUETKEHANS:** We're going to need this a
 10 few times; so I am going to just hand it out.
 11 Q. Showing you what has been marked as SLG
 12 Exhibit 19, these are a significant portion of the
 13 IPCB regulations, correct?
 14 **A. Yes.**
 15 Q. These pages are not numbered because I put a
 16 few of them together to try and make this easy, but
 17 now I'm realizing it may be hard to find the pages.
 18 We'll try and muddle through, if that's okay.
 19 The next to last page, paragraph 7, do you
 20 see that towards the top?
 21 **A. Yes.**
 22 Q. It talks about -- and this is part of
 23 Section 910.105. You can trust me. I'm not going to
 24 lie about that.

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1 **A. I trust you.**
 2 Q. If I do, Jim will catch me.
 3 It says, "While measurements" -- again, this
 4 likewise says, "While measurements are being taken,
 5 visual and oral surveillance" -- and aural as in
 6 a-u-r-a-l -- "surveillance of extraneous sound sources
 7 and varying wind conditions must be made to insure
 8 that conditions of measurement are accurately known."
 9 That says that, correct?
 10 **A. That's paragraph 7.**
 11 Q. Yeah.
 12 **A. Yes.**
 13 Q. In the Charter Hall Homeowner's Association
 14 versus Illinois Transportation System, it says in
 15 there that, Mr. Harmon -- right after the part we
 16 looked at on page 14, it says, "Mr. Harmon left the
 17 site while the measurements were being taken.
 18 Accordingly, he did not comply with this provision of
 19 Part 951." Is That correct?
 20 **A. It does say that, yes.**
 21 Q. So like Mr. Harmon in the Charter Hall case,
 22 you were not present while all the measurements were
 23 being taken, were you?
 24 **A. That's correct.**

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1 Q. The maximum hourly average for nighttime is
 2 41 decibels at the 1,000 hertz octave band, correct?
 3 **A. Yes. If I may, for the land use of --**
 4 Q. For Class A.
 5 **A. C 2 A, yes.**
 6 Q. For A?
 7 **A. Being the receiving land, yes.**
 8 Q. Yes. Sorry.
 9 And I think just to make it easier -- you
 10 tell me if this does not make it easier -- we're going
 11 to assume everything is Class C, is the emitting land,
 12 if that's the right language?
 13 **A. It is.**
 14 Q. And when I'm talking about Class A here -- I
 15 don't think there is a B or C -- I'm going to be
 16 talking about receiving land, okay?
 17 **A. Sure.**
 18 Q. If you have a question, feel free to clean
 19 it up for me.
 20 If you did not take 2 decibels off the 1,000
 21 hertz band because of the California Ridge Study,
 22 there would be seven receptors over 41.0 dB at the
 23 1,000 hertz bandwidth, correct?
 24 **A. I believe that is correct, yes.**

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1 Q. Then we would have approximately -- or at
 2 least another 11 between 40.5 and 41?
 3 **A. That I'm not sure of.**
 4 Q. I'm not trying to make it a memory test. If
 5 you want to go to page -- you have your report, I
 6 assume, Mr. Hankard?
 7 **A. I do.**
 8 Q. If you want to go to page 43?
 9 **MS. TURNER:** Are you talking about the
 10 report in the application?
 11 **MR. LUETKEHANS:** I apologize. I gave you
 12 the wrong page number.
 13 **MR. HANKARD:** That's good because it doesn't
 14 go to page 43.
 15 **MR. LUETKEHANS:** I just realized that myself
 16 and realized I gave you the wrong one.
 17 Q. You have in your report a chart, and I think
 18 it's page 13 of your report, table 3?
 19 **A. Yes.**
 20 Q. This is the ones that released the highest
 21 predicted noise level, is it not?
 22 **A. Right.**
 23 Q. And I'm only talking about nonparticipating
 24 when I say seven or eleven. The participating, you

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1 know, whatever decisions they made, they made.
 2 I just kind of counted through here and
 3 found 11 on this one page that, if I added 2 decibels,
 4 they would be between 40.5 and 41.0. If you want to
 5 count them -- at 1,000. If you want to count, feel
 6 free.
 7 **A. I see, in this table, it would be -- if you**
 8 **added 2 decibels to 1,000 hertz, the top six would**
 9 **exceed 41, but that's it.**
 10 Q. Okay. We can talk about that, but let's go
 11 -- I'll go back to that -- or let's start there for a
 12 second. Did you hear -- did anyone tell you about
 13 Mr. Slagel's testimony?
 14 **A. I heard some of it, yes.**
 15 Q. He pointed out there was a missing receptor?
 16 **A. Yes.**
 17 Q. Do you disagree with that?
 18 **A. I do not. We chased that down first thing**
 19 **this morning.**
 20 Q. That's how I get to seven.
 21 **A. Okay. Fair enough. Seven it is.**
 22 Q. Now let's talk about the 11.
 23 **A. Okay.**
 24 Q. Those aren't exactly in order; but I just

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1 kind of counted through and found, in this case, 11
 2 between 38.5 and 39, which would get us to the 11 --
 3 at least 11 between that level?
 4 **A. Between the 40.5 and --**
 5 Q. -- the 41, if you add the 2 decibels back.
 6 That make sense?
 7 **A. Sure.**
 8 Q. You lowered the 1,000 hertz bandwidth 2
 9 decibels based significantly on the language in
 10 paragraph 7 of -- excuse me. Do you have California
 11 Ridge handy?
 12 **A. I do.**
 13 Q. If you go to page 44 of that report, that's
 14 where the 43 and 44 is.
 15 **A. I have it.**
 16 Q. That conclusion, was that a significant part
 17 of you lowering the 1,000 hertz band level 2 decibels
 18 in this McLean County report?
 19 **A. Well, it's not -- I mean, that statement is**
 20 **what that statement is. For example, we see here that**
 21 **it says the 500 hertz was also 2 dB down, but we did**
 22 **not subtract 2 dB at 500 hertz as well. So no, this**
 23 **statement is -- it is what it is.**
 24 **But the way I came about the 2 dB reduction**

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1 **is to look at the loudest noise levels that we**
 2 **measured that we considered turbine only. So as you**
 3 **know, when you go out with a microphone, you're going**
 4 **to measure turbines and traffic and wind. We have to**
 5 **try to separate the two.**
 6 **So we have some of the data that we can tell**
 7 **from the frequency spectrum and wind conditions, et**
 8 **cetera, that it was just turbines. And that's really**
 9 **what we want to compare our model to because our model**
 10 **is a model of just turbines. So we chose the best**
 11 **data within the -- or I did, I should say -- within**
 12 **the California Ridge.**
 13 **Of all the measurements we took, there were**
 14 **a few 10-minute samples that were all turbine noise.**
 15 **So we used that to compare to the model, and that's**
 16 **when I would find the model underpredicts at 500 hertz**
 17 **and overpredicts at 1,000 hertz.**
 18 Q. Could you go to figure 7-1 of your report --
 19 I mean of California Ridge.
 20 **MR. ZIMMERMAN:** Page 28.
 21 **MR. HANKARD:** Yes. Got it. Thank you.
 22 Q. The second graph is prime 2 or 1,000 octave
 23 band, correct?
 24 **A. Yes.**

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1 Q. Can you tell us which of those points were
 2 your basis for lowering it 2 decibels?
 3 **A. I do not know from this graph which one of**
 4 **those points.**
 5 Q. Okay. There are a significant number of
 6 points at that -- in that table that are between 39
 7 and 41 and some slightly over 41, correct?
 8 **A. Yes.**
 9 Q. This is noise levels versus ground wind
 10 speed, correct?
 11 **A. Right.**
 12 Q. We would agree that -- we already did this.
 13 Mr. Griffin represented the ZBA or the County Board in
 14 Invenergy's hearing for a special use back in
 15 2014-2015; do you recall that?
 16 **A. Would that be the Pleasant Ridge project?**
 17 Q. Yes, sir.
 18 **A. I do recall the Pleasant Ridge project,**
 19 **yeah.**
 20 Q. And you recall Mr. Griffin representing the
 21 Board?
 22 **A. I remember him being there. I don't recall**
 23 **his exact capacity.**
 24 Q. Okay. And you testified in Pleasant Ridge,

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1 correct?
 2 **A. I did.**
 3 Q. And you did a report there, right?
 4 **A. Yes.**
 5 Q. At some point after Mr. Griffin pointed out
 6 in questioning that numerous receptors in the original
 7 application in Livingston County were between 41 and
 8 41.4, you remodeled Livingston County with LNTE blades
 9 for certain wind turbines to get them all at 41 and
 10 below, correct?
 11 **A. That was the process, yes.**
 12 Q. Is it your opinion that if the noise
 13 emissions do not exceed the limits in Section 901.102
 14 of the IPCB regs -- that's the nighttime and daytime
 15 levels, right?
 16 Is it your opinion that if noise emissions
 17 do not exceed those numeric limits, that there can be
 18 no violation of the IPCB standards?
 19 **MR. GRIFFIN:** I object to that question. I
 20 think it calls for a legal conclusion as to what a
 21 violation of the standards is.
 22 **MR. LUETKEHANS:** I just asked his opinion,
 23 and he's an acoustician who deals with this on a
 24 regular basis. He testified in numerous counties

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1 throughout the state as to noise levels and what is
 2 appropriate and what is not under the IPCB
 3 regulations, including in this case.
 4 **A. Well, I can read you the text, which says**
 5 **that no one shall cause noise levels to exceed those**
 6 **numbers.**
 7 Q. Is that the only portion of the text that
 8 says that, that says that's the only time you can have
 9 a violation?
 10 **A. This is a fairly robust code, with other**
 11 **aspects to it. So there may be other elements of**
 12 **exceeding and not exceeding.**
 13 Q. You're familiar with the Knox versus Turriss
 14 case, right?
 15 **A. I am.**
 16 Q. You heard Mr. Griffin ask Dr. Schomer about
 17 that earlier, right?
 18 **A. Yes.**
 19 Q. On page 12 of that decision, third full
 20 paragraph -- I guess it's the second one under
 21 "Discussion," just to point you in the right
 22 direction.
 23 **A. Yes.**
 24 Q. It says: "The Board has previously found

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1 that compliance with the numerical noise standards
 2 does not present an absolute bar to finding a
 3 violation of the general nuisance prohibitions,"
 4 correct?
 5 **A. It does say that.**
 6 Q. "General nuisance noise prohibitions." I
 7 missed a word. No one said I can read.
 8 The next paragraph goes on to say: "The
 9 Board has determined that noise interfering with sleep
 10 and use of yard" -- then they say the "Hoffman"
 11 decision -- "and trucking operation noise impacting
 12 sleep, watching television, and conversing," -- and
 13 then they say "Thomas versus Carry Companies" decision
 14 -- "does constitute an interference. Here, the noise
 15 impacts the sleep of the complainants."
 16 Do you see that?
 17 **A. Yes.**
 18 Q. So the PCBS has stated that noise can
 19 interfere -- did interfere with the enjoyment of life
 20 in that case, correct?
 21 **MR. GRIFFIN:** I'm going to object to the
 22 question to the extent it asks for more than
 23 Mr. Hankard to just acknowledge what is written there.
 24 Q. I'll just read it then. Does it say in the

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1 next paragraph: "The Board finds that the noise
 2 emissions from the school do interfere with the
 3 complainants' enjoyment of life"? Do you see that?
 4 **A. I do see that.**
 5 Q. If you go to back to SLG Exhibit 19, which
 6 is the IPCB regulations, and if you could go to
 7 section 900.102, I think that's about eight pages in,
 8 for anybody who is looking.
 9 **A. Yes, I see it.**
 10 Q. In fact, Section 900.102 states: "No person
 11 shall cause or allow the emission of sound beyond the
 12 boundaries of his property, as defined in Section 25
 13 of the Act so as to cause noise pollution in
 14 Illinois." Is that correct?
 15 **A. That's what it says.**
 16 Q. And it talks about the boundaries of the
 17 property, correct?
 18 **A. It says that "No person shall cause or allow**
 19 **the emission of sound beyond the boundaries of his**
 20 **property."**
 21 Q. Okay. Doesn't mention a structure anywhere
 22 in there, does it?
 23 **A. No.**
 24 Q. Now if we go back to page 4 of that same

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1 document -- this is in Section 900.101 -- that defines
 2 noise pollution as "The emission of sound that
 3 unreasonably interferes with the enjoyment of life or
 4 with any lawful business or activity," doesn't it?
 5 **A. It does say that.**
 6 Q. And Section 910.104, if you could go to that
 7 -- I think that's towards the back. It's about five
 8 or six pages from the back.
 9 **A. 900.104?**
 10 Q. 910.104.
 11 **A. Okay.**
 12 Q. It specifically says in there, doesn't it,
 13 "Sound pressure level measurements are not required to
 14 establish a violation of 35 Illinois Adm. Code 900.102
 15 (nuisance noise)." Is that correct?
 16 **A. It does say that.**
 17 Q. I believe you testified -- at least it's in
 18 your report -- that you measured at the edge of the
 19 residential structures, correct?
 20 **A. Yeah.**
 21 Q. You modeled?
 22 **A. Yeah. We modeled at the residential**
 23 **structures.**
 24 Q. I say that way too often; so please clean me

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1 up on that.
 2 You never measured -- or never modeled at
 3 any of the property lines, correct?
 4 **A. We did not.**
 5 Q. You would agree with me, would you not, that
 6 the classification of land under the IPCB regs is
 7 based on the actual use of the property, not the
 8 underlying zone, correct?
 9 **A. That is my understanding.**
 10 Q. Okay. Go back to SLG Exhibit 19, if you
 11 would. About midway through, there's Appendix B.
 12 It's a chart. It's probably -- for those looking,
 13 it's a nine-page chart. It's kind of right in the
 14 middle. And you recognize this chart, right?
 15 **A. I do.**
 16 Q. In fact, it's another one that Mr. Griffin,
 17 I think, referred to earlier. This is Appendix B to
 18 the IPCB standards, correct?
 19 **A. Yes.**
 20 Q. And it says "Land-Based Classification
 21 Standards," correct?
 22 **A. Yes.**
 23 Q. It does not say building-based standards,
 24 does it?

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1 **A. Says "Land-Based Classification Standards."**
 2 Q. Doesn't say structure-based standards, does
 3 it?
 4 **A. No.**
 5 Q. Showing you what's been marked as SLG
 6 Exhibit 11. These are -- it's an opinion of the IPCB
 7 board from 1973. Do you see that?
 8 **A. Yes.**
 9 Q. Could you go to page 18. It's under Rule
 10 201. Again, the numbers are light in the bottom
 11 right-hand corner.
 12 **A. Yes, I see it.**
 13 Q. The exhibit, or at least this section,
 14 starts off "Classification of Land According to Use."
 15 Do you see that?
 16 **A. Yes.**
 17 Q. Again, it doesn't say classification of
 18 structure. It says, "Classification of Land,"
 19 correct?
 20 **A. Yes.**
 21 Q. Then the second paragraph goes on to say,
 22 "The classification of land is dependent on the actual
 23 use being made of the land," correct?
 24 **A. Yes.**

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1 Q. So we're talking about the actual use being
 2 made of the land -- strike that.
 3 Are you familiar with these regulations as a
 4 professional acoustician?
 5 **A. I am familiar with the Illinois Pollution
 6 Control Board regs for noise, yes.**
 7 Q. These are regs that have been enacted by the
 8 IPCB to assist in explaining the method of calculating
 9 noise emissions under 35 Illinois Admin Code 901.102,
 10 correct?
 11 **A. Could you repeat that?**
 12 Q. Yeah. These regulations have been enacted,
 13 or this opinion that came out as an attempt by the
 14 Illinois Pollution Control Board to assist in
 15 explaining the method of calculating noise emissions
 16 under 901.102, correct?
 17 **MR. GRIFFIN:** Objection. Mr. Luetkehans,
 18 are you quoting something there?
 19 **MR. LUETKEHANS:** I'm just asking a question
 20 right now.
 21 **MR. GRIFFIN:** I'm going to object. He's
 22 asking what the purpose of the document is. That's a
 23 legal conclusion.
 24 **MR. LUETKEHANS:** If he knows, I'd just ask

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1 him to answer. If he doesn't, he doesn't.
 2 **A. I do not know what the purpose of this
 3 document is specifically.**
 4 Q. Okay. 901.102 is at least part of the noise
 5 emissions standards we've been discussing, correct?
 6 **A. Right.**
 7 Q. In fact, that's where we find the nighttime
 8 limits for sound emitted to Class A land, correct?
 9 **A. What section?**
 10 Q. 901.102.
 11 **A. Right.**
 12 Q. Those limits for Class A land are 41
 13 decibels, as we've said, at 1,000 hertz and 47 at 500
 14 hertz for nighttime, correct?
 15 **A. 47 at 500 hertz and 41 at 1,000 hertz.**
 16 Q. Okay. Again, on page 18 of the exhibit,
 17 second paragraph under Rule 201, it again says that
 18 "The classification of land is dependent on the actual
 19 use being made of the land rather than on anticipated
 20 or planned uses such as could occur if the
 21 classifications were based on zoning."
 22 Do you see that?
 23 **A. Yes, I do.**
 24 Q. In fact, if we go to Section 901.101 of

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1 Exhibit 19, under B, Class A land, they talk about
 2 land uses again, correct?
 3 **A. Right.**
 4 Q. Now, if you could go back to Exhibit 11,
 5 still in Rule 201 --
 6 **A. Which is 11?**
 7 Q. It's the opinion that we talked about.
 8 **A. Okay. Yes.**
 9 Q. Back to page 18 -- or actually page 19 at
 10 this time, the top of page 19.
 11 **MR. GRIFFIN:** I think the witness has
 12 testified he's not familiar with Exhibit Number 11; so
 13 I'd object to any further questions on that.
 14 **MR. LUETKEHANS:** I'm just going to ask if
 15 I'm reading it correctly.
 16 Q. The top of page 19 says, "It is important to
 17 recognize that the land use is not necessarily
 18 co-extensive with landownership. A good example of
 19 this is a farmer's piece of property. The portion of
 20 land used as farmland would be classified as 'C.'
 21 You would agree with that, right?
 22 **A. That's what it says here, yes.**
 23 Q. Would you also agree that that's the
 24 classification for farmland?

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1 **A. Farmland is classified as "C," yes, if you**
 2 **go to the table. Yes.**
 3 Q. And then it goes on to say, "The farmstead
 4 itself would be classified as an 'A' use," correct?
 5 **A. That's what it says.**
 6 Q. And it says "farmstead," not farmhouse,
 7 correct?
 8 **A. It says, "farmstead."**
 9 Q. Doesn't say farmhouse anywhere in there?
 10 **A. It does not, that I see here.**
 11 Q. Let's go back to Exhibit 19, the regs. I
 12 apologize to keep going back and forth, but it's the
 13 only way I know how to do it.
 14 Section 901.102 of the IPCB regs, that's the
 15 one where we have the nighttime and daytime levels,
 16 correct?
 17 **A. Yes.**
 18 Q. Let's just go down to B, which is the
 19 nighttime, which is what I think we all think is
 20 really the issue here. Daytime, you're not even close
 21 to those numbers, correct? At 1,000 hertz?
 22 **A. Right. The daytime numbers are roughly 5 dB**
 23 **high.**
 24 Q. So we're talking about nighttime.

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1 Subsection B is nighttime, correct?
 2 **A. Correct.**
 3 Q. Stay on that page because I saw you going
 4 back and forth, but that's the page we're going to
 5 talk about.
 6 Subsection B says: "No person shall cause
 7 or allow the emission of sound during nighttime hours
 8 from the property line noise source located on any
 9 Class A, B, or C land to any receiving Class A land
 10 which exceeds any allowable octave band sound pressure
 11 level specified in the following table and measured at
 12 any point within such receiving Class A land,"
 13 correct?
 14 **A. It does say that.**
 15 Q. It says, "at any point within such receiving
 16 land," correct?
 17 **A. Yes.**
 18 Q. However, your models are not based on points
 19 -- do not show the noise levels at every point within
 20 the receiving land, do they?
 21 **A. We predicted noise levels at the residence.**
 22 Q. And at the residence only, correct?
 23 **A. That's correct.**
 24 Q. Even if an entire property is one acre to

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1 five acres and is used entirely for residential, you
 2 only measured at the structure, not at any point
 3 within the land, correct?
 4 **A. Yes. We only predicted at the residence.**
 5 Q. It's correct, if you model 50 feet closer to
 6 a wind turbine or turbines, you could have up to a .3
 7 decibel change, correct?
 8 **A. Well, it depends on the distance to the**
 9 **turbine to begin with. It's a ratio. But it's tenths**
 10 **of a dB for a change of 50 feet, let's say.**
 11 Q. It could be up to .3 decibels, correct?
 12 **A. I don't know. It depends on how far the**
 13 **turbines are.**
 14 Q. Do you remember testifying in Livingston
 15 County, where you testified and I cross-examined you,
 16 and one of those days was April 29, 2015?
 17 **A. I don't remember the specific dates.**
 18 Q. Neither would I.
 19 **A. I can claim to be like Paul in that regard.**
 20 **CHAIRMAN FINNIGAN:** We're getting to the
 21 point of where we need to kind of see where we're
 22 going with this. We're just kind of lost up here.
 23 **MR. LUETKEHANS:** We're almost done. We're
 24 almost done.

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1 **CHAIRMAN FINNIGAN:** Let's kind of move it
 2 along.
 3 **MR. LUETKEHANS:** We are, sir.
 4 Q. Let me ask, do you recall being asked this
 5 question and giving this answer on that date.
 6 "Okay. So at the center of the house, if we
 7 move 50 feet out, we can have .3 decibel change,
 8 correct?" You said that?
 9 Answer: "At most, yes."
 10 Do you remember being asked that question
 11 and giving that answer?
 12 **A. I see it on the paper, and I have no reason**
 13 **to doubt that it occurred, but I don't specifically**
 14 **remember being asked the question.**
 15 Q. Okay. Then the next question is -- do you
 16 recall being asked this question and giving this
 17 answer?
 18 "Okay. How about 500 feet?"
 19 And your answer was: "It's going to depend
 20 on the distance to the nearest turbine, distance to
 21 other turbines."
 22 "Question: Okay. But we could have more
 23 than .3 decibels there, correct?"
 24 "Answer: Yes."

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1 Do you recall being asked that question and
 2 giving that answer?
 3 **A. No. I don't recall the specific line of**
 4 **questioning or the situation that was being asked.**
 5 Q. Do you recall -- do you have any reason to
 6 believe that that question and answer were not
 7 correctly transcribed?
 8 **A. I have no reason to believe that, no.**
 9 Q. Then let's go to the next line.
 10 **MR. HANKARD:** Can you point me to where you
 11 are?
 12 **MR. LUETKEHANS:** I'm sorry. Page 3871 and
 13 3872. I should have done that for Mr. Griffin. I
 14 apologize.
 15 **MR. HANKARD:** Okay. I'm with you.
 16 **MR. LUETKEHANS:** Okay. Now we're at the top
 17 of 3872.
 18 **MS. TURNER:** We have no idea.
 19 **MR. LUETKEHANS:** You won't have it. This is
 20 an attempt to -- I could hand it all out, but --
 21 **MR. DICK:** We need more paper.
 22 **MR. LUETKEHANS:** -- I don't think you need
 23 it.
 24 Q. Do you recall being asked this question and

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1 giving this answer?
 2 "And at 200 feet, we could have more than .3
 3 as well, correct?"
 4 "Answer: Yes."
 5 Does that sound proper?
 6 **A. Again, I'll go with that the transcription**
 7 **was correct.**
 8 Q. Your models were not based on the actual
 9 areas of mixed-use land such as the portion of the
 10 land used for things other than farmland, correct?
 11 **A. Could you restate that?**
 12 Q. Yeah. Your models don't show -- you didn't
 13 model -- you didn't go look at the properties to
 14 determine which section of the property was farmland
 15 and which one was farmstead when you modeled. You
 16 just modeled to the house. No other decisions were
 17 made, correct?
 18 **MR. GRIFFIN:** Objection. I think it's been
 19 asked and answered. He testified he modeled at the
 20 residence a couple of times already.
 21 **CHAIRMAN FINNIGAN:** Let's move on.
 22 Q. Do you recall testifying previously that the
 23 Pollution Control Board has taken up this issue of
 24 property line versus structure and said: "So the

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1 Class A land, a residential property, would be the
 2 area around a house, not the entire extent of the
 3 platted land"? Do you recall that?
 4 **A. That would have been my opinion; so I can**
 5 **assume that, again, it was properly transcribed.**
 6 Q. But you didn't say just the structure. You
 7 said the area around the house, correct? Does that
 8 sound correct to you?
 9 **A. I do not recall exactly what I said. Is**
 10 **that here?**
 11 **MR. LUETKEHANS:** That's actually a different
 12 transcript.
 13 Page 1325, this is the January 21, 2015,
 14 testimony.
 15 **MR. HANKARD:** Okay.
 16 **MR. GRIFFIN:** Before Mr. Luetkehans goes
 17 further, I would ask: What is he impeaching here? I
 18 don't know what contrary testimony the witness has
 19 given that he's trying to impeach here?
 20 **MR. LUETKEHANS:** I guess I'll just ask the
 21 question.
 22 Q. Do you believe that the area around the
 23 house is residential property, or do you believe it
 24 stops at the structure?

1 **A. I believe that, given that nighttime is the**
 2 **issue and a majority of people are sleeping a majority**
 3 **of the time at night, then it would be the residence**
 4 **itself that is of primary concern.**
 5 Q. Okay. So do you believe -- so at that
 6 point, it doesn't matter, once it's nighttime, what
 7 the modeling says or shows anywhere on the property
 8 other than at the residence. Is that your opinion?
 9 **A. Could you restate?**
 10 Q. Is it your opinion that the land outside the
 11 house -- so if I have an acre house, an acre property
 12 of land and at nighttime, I'm not afforded the
 13 protection on any part of the land; it's only at the
 14 house? Is that your opinion?
 15 **A. It is, and it's based -- you know, if you go**
 16 **back, you had me look at Appendix B of the Illinois**
 17 **Pollution Control Board Regulations. You asked me if**
 18 **something said building or something said structure.**
 19 **And it says "residence."**
 20 **To me, residence is -- it's not a yard or a**
 21 **porch or a garage. A residence is a physical house**
 22 **that one lives in. So on that basis, I do believe**
 23 **that it is the residence itself that is the point**
 24 **where one should assess compliance.**

1 **A. Yes. They are right there in Table 3.**
 2 Q. Every one of your -- in Appendix C, correct?
 3 **A. They would be also in there, yes.**
 4 Q. Every one of these pieces of property has a
 5 level dBA shown on it, correct?
 6 **A. Yes.**
 7 **MR. LUETKEHANS:** Nothing further.
 8 **CHAIRMAN FINNIGAN:** We're going to take a
 9 ten-minute break. Then you can do redirect.
 10 (Recess in proceedings.)
 11 **MR. GRIFFIN:** Jim Griffin with the law
 12 firm of Schain Banks, 70 West Madison Street, Suite
 13 5300, Chicago, Illinois, 60602.
 14 Mr. Hankard, I want to ask you about a few
 15 of the things you discussed in your cross-examination.
 16 **REDIRECT EXAMINATION**
 17 **BY MR. GRIFFIN:**
 18 Q. Mr. Luetkehans asked you about the Cal Ridge
 19 Study and why you didn't stay at your equipment the
 20 entire time. Was there a reason you didn't stay at
 21 the equipment the entire time?
 22 **A. Yes. With winter and projects, as I**
 23 **explained somewhat in my direct testimony, those**
 24 **nights when the turbines are operating at full**

1 Q. But only at night?
 2 **A. Well, no. The daytime standard would apply**
 3 **similarly, but we are talking about the nighttime --**
 4 Q. Well, I mean, you have 901.102 that says "at
 5 any point within the land," correct? Doesn't say at
 6 the residence. Doesn't say at the structure. It
 7 says, at any point within the land, you cannot exceed
 8 that limit, correct?
 9 **MR. GRIFFIN:** I would object. We've been
 10 through what the regs say already.
 11 **MR. LUETKEHANS:** He made a statement, and
 12 I'm trying to show how ridiculous that statement is.
 13 Q. 901.102 does not say residence. It says,
 14 "at any point within the land," correct?
 15 **CHAIRMAN FINNIGAN:** This is getting
 16 argumentative. I think, if you want to make that
 17 point, you can do it in closing statement.
 18 Q. Where would I find the dBAs in your report?
 19 **A. This are no dBA levels in our report because**
 20 **there's no dBA standard.**
 21 Q. In your report, there's no dBA levels?
 22 **A. Well, I'm sorry. They are there, but**
 23 **they're there for information only.**
 24 Q. I'm not saying --

1 **capacity and the wind conditions are appropriate for**
 2 **measurements don't present themselves every night. So**
 3 **that study was four and half months long.**
 4 **I'm a hard worker, but I don't like staying**
 5 **on the property for four and half months. So we**
 6 **devised -- so we have to do long-term monitoring in**
 7 **order to capture the breadth of conditions that we**
 8 **need.**
 9 **To make up for the fact that we're not**
 10 **there, we do things like recording the audio so that**
 11 **we can listen afterwards. So in a sense, we are there**
 12 **from a sound perspective, not a visual perspective;**
 13 **but you can't really see much at night anyway. We use**
 14 **various techniques of time analysis and frequency**
 15 **analysis to be able to identify: That's a car.**
 16 **That's a turbine.**
 17 **We didn't not stay there just because we**
 18 **were lazy or didn't want to do it. Again, these**
 19 **projects take weeks to months. And we used tools to**
 20 **overcome the fact that we weren't there.**
 21 Q. Was Dr. Schomer aware of how the
 22 measurements were done and who was present when?
 23 **A. Absolutely. Paul and I worked on that**
 24 **project together, and decisions were made together.**

1 **He was fully aware of the nature of the measurements.**

2 Q. Did Dr. Schomer ever give you an opinion
3 that what the two of you were doing in your noise
4 measurements study was not in compliance with the
5 Illinois Pollution Control Board Regulations?

6 **A. No, he did not.**

7 Q. You testified about adjustments that you
8 make -- I don't know -- adjustments might not be the
9 right term -- but that you made in preparing your
10 model for this project at the 1,000 hertz and 500
11 hertz, correct?

12 **A. Yes.**

13 Q. Why did you make that adjustment at the 500
14 hertz and 1,000 hertz?

15 **A. Okay. Mr. Luetkehans asked me a lot of**
16 **questions about the 1,000 hertz, but you can't forget**
17 **the fact that we went in the other direction at 500**
18 **hertz. We added a decibel to our results to make them**
19 **more conservative.**

20 **We do this because we have found -- I have**
21 **found, through my measurement experience, not just**
22 **with Cal Ridge but with subsequent projects, that the**
23 **model potentially underpredicts at 500 hertz. I think**
24 **that's a problem; so that's why I add a decibel to my**

1 **going to matter.**

2 **It's also the low frequency that has been**
3 **the subject of concern. You've heard Dr. Schomer**
4 **talking about low frequency and a lot of others. So,**
5 **again, I'm trying to be more conservative in the lower**
6 **frequency and not as concerned with the higher**
7 **frequencies.**

8 Q. Are there other items in your noise model
9 that you view as conservative in the way that you do
10 the model?

11 **MR. LUETKEHANS:** Objection, beyond the
12 scope.

13 **CHAIRMAN FINNIGAN:** I don't know. I mean,
14 if you can answer the question, I'd say go ahead. We
15 want to hear what you've got to say.

16 **A. Okay. Well, it does tie into this whole 2**
17 **decibel thing because I'm being criticized, you could**
18 **say, for taking this 2 decibels off.**

19 **Please understand that a majority of**
20 **acoustical consultants in this country utilize the**
21 **same model, but there's different settings, the ground**
22 **factor being primary among them. There's no handbook**
23 **on this. There's no one book that every acoustical**
24 **consultant turns to page 7, and there it is. There is**

1 **results. And, yes, I feel that the model**
2 **underpredicts at 2,000 -- excuse me -- overpredicts at**
3 **2,000 hertz, and that's why I back those numbers off.**

4 **It's based on nothing but my constant**
5 **feedback of my measurements and my modeling and always**
6 **comparing the two. That is my professional opinion.**

7 **A lot of people that don't get a chance to**
8 **get out and actually measure these things don't have**
9 **that kind of information. They don't make any**
10 **adjustments because they don't have the information to**
11 **do so. I do.**

12 Q. You make the -- you testified that the
13 500-hertz adjustment was made. I think you identified
14 that as being more critical or more important than the
15 adjustment at 1,000 hertz. Can you expand upon that
16 further?

17 **A. Sure. Two things are going on there. Wind**
18 **turbines produce -- the energy they produce peaks**
19 **around 500 hertz, and then it drops off from there.**
20 **So 500 hertz is being produced more so than 1,000.**

21 **And the atmosphere absorbs more of the**
22 **energy at 1,000 than it does at 500. So by the time**
23 **-- the further and further away you get from a**
24 **turbine, it's the lower and lower frequencies that are**

1 **how you do it.**

2 **They call it professional judgment for a**
3 **reason. There's some leeway. Well, I use this 0**
4 **ground, which means my numbers off the bat are 3**
5 **higher than practically any other person that would be**
6 **sitting here in front of you.**

7 **Most of the studies that I read that are**
8 **submitted in this country, including others in**
9 **Illinois, they use 0.5 ground. So their numbers are**
10 **three less than mine. So I'm already coming in on the**
11 **high side, and I boost the 500. Everyone harps on the**
12 **fact that I reduced the 2 dB at 1,000 hertz, but I**
13 **want you to know there were two other major plays in**
14 **the other direction.**

15 Q. The zero ground factor that you utilized,
16 the use of that zero factor, what is that
17 representative of?

18 **A. That's a complicated -- it's essentially**
19 **representative of the porosity of the ground. If you**
20 **have tilled soil, that's very porous. There's a lot**
21 **of trapped air particles in there; and sound, as it**
22 **travels along that, gets absorbed.**

23 **The opposite end would be pavement or water.**
24 **This table, sound reflects off of it. I'm assuming**

1 that the whole world is paved with a table top.
2 Others are assuming it's paved with grass. That's why
3 their numbers are lower than mine.

4 Q. But the project area is not all paved,
5 correct?

6 A. No, of course. It's largely tilled earth
7 and crops and -- yes, it largely would be more
8 representative of a 0.5, but again I'm just trying to
9 be conservative.

10 Q. All right. And then Mr. Luetkehans asked
11 you questions about regulations, Illinois Pollution
12 Control Board decisions, SLG Exhibit 11, SLG Exhibit
13 13, SLG Exhibit 19, SLG Exhibit 21.

14 Can you tell me, for all those four
15 exhibits, where do those exhibits tell you how to do a
16 model under Illinois Pollution Control Board
17 Regulations?

18 A. Well, none of them. The Illinois Pollution
19 Control Board Regulations do not require you to model
20 or tell you how to model. They're all about
21 compliance.

22 They tell you how to measure, and they tell
23 you what the limits are. So your model is really just
24 your making sure that, if and when you ever have to

1 questions?

2 MR. BANGERT: On the nights you did not stay
3 for the studies and the equipment was left there, how
4 much of that data was used in your data sets?

5 MR. HANKARD: We use all of the data
6 initially. We download all data, and we review all of
7 the data. Then we look for the nights, first of all,
8 when the turbines were operating at, let's say, 50 or
9 75 percent capacity or above. So that would be the
10 first cutoff. We don't want to be looking at nights
11 when the turbines were barely working or not working
12 at all.

13 Then you start eliminating times when it's
14 obvious that it's traffic, a truck going by with a big
15 spike in the data. The turbines don't produce that
16 kind of a spike.

17 Then we also look at ground wind data so
18 that, if it's one of these nights where it's very,
19 very windy on the ground, you're not measuring
20 turbines; you're measuring wind through the trees or
21 at least a majority of that. So ultimately, we
22 whittle it down.

23 We start with all the nights. We look at
24 all the nights, but then we keep whittling it down

1 measure, you're in compliance.

2 Q. So you would agree that all the provisions
3 and cases that Mr. Luetkehans asked you about all
4 relate to measuring noise, not modeling noise; am I
5 correct?

6 A. That's correct.

7 Q. So how do you determine how to do the
8 modeling so that you can give this Board an opinion as
9 to whether or not this project will comply once it's
10 operational with the Illinois Pollution Control Board
11 Regulations?

12 A. Well, so we utilize these models; and,
13 again, it comes to that feedback loop of always going
14 out and testing it, making sure. A model is just a
15 model. It's just an estimate. There's only one way
16 to find out if you're right or wrong, and that's to go
17 out and measure, which we do.

18 MR. GRIFFIN: That's all the redirect I
19 have. Thank you.

20 MR. LUETKEHANS: Do I have the right for
21 recross?

22 MS. WALLEY: (Shaking head from side to
23 side.)

24 CHAIRMAN FINNIGAN: Would the Board have

1 until we're left with those nights where the turbines
2 were working at near full capacity or at full capacity
3 and the ground winds were relatively light such that
4 we have a good signal. We can see that's turbine
5 noise, and we can tell from the frequency spectrum.

6 MS. TURNER: How many times have you been
7 asked -- or have you been asked -- to come back and
8 model on farms that you predicted due to complaints,
9 resident complaints?

10 MR. HANKARD: Did you mean measure?

11 MS. TURNER: Measure.

12 MR. HANKARD: How many times? Somewhere
13 eight to ten times.

14 MS. TURNER: And did you change your model
15 based upon those measurements ever?

16 MR. HANKARD: Well, once we went to the zero
17 ground, you know, got the model conservative, once I
18 learned that lesson, there was no -- I've never had to
19 change, no.

20 MR. KURITZ: So how did those measurements
21 turn out that you had to go back on, that she just
22 asked you about? Once you went back, how did they
23 turn out compared to your model?

24 MR. HANKARD: Compared to the model -- so

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1 some of the projects I get called in on, I was not the
 2 party that did the modeling, which is always a little
 3 more comfortable.
 4 On the projects where I modeled and I used
 5 my method, the same methods I've used here in McLean
 6 County, I've never had an exceedence. I've never gone
 7 back and measured and found it to be louder than my
 8 model.
 9 **MR. KURITZ:** So the ones that you did go
 10 back on where someone else did the modeling; is that
 11 what you're saying?
 12 **MR. HANKARD:** I have done that as well, yes.
 13 **MR. KURITZ:** And did you find those to be
 14 noisier than what was predicted?
 15 **MR. HANKARD:** There was one case where that
 16 was the case, yes.
 17 **MR. KURITZ:** For the most part though,
 18 modeling works?
 19 **MR. HANKARD:** It does, indeed.
 20 **MR. ZIMMERMAN:** You mentioned that you
 21 modeled based -- your model is based on flatter
 22 ground, not so much with grass and other
 23 porosity-laden ground. So you model as if the ground
 24 were flatter or would transmit sound more fully?

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1 **MR. HANKARD:** It's hard. It's completely
 2 reflective. So all of the sound that hits it bounces
 3 off. Nothing is getting absorbed. That's what we are
 4 replicating.
 5 **MR. ZIMMERMAN:** That's what you assume. But
 6 out in the country, is there typically rougher
 7 surfaces, like at least grass or something like that?
 8 **MR. HANKARD:** Absolutely.
 9 **MR. ZIMMERMAN:** In the Exhibit, SLG Exhibit
 10 6 here, they have -- I want to find out if you also
 11 include anything about the air. On page 35, it's like
 12 the second page in, over on the right-hand side. I'll
 13 read it for you.
 14 **MR. HANKARD:** Which one is 6?
 15 **MR. ZIMMERMAN:** "Health effects," it says,
 16 up in the corner. It's the one with four different
 17 authors. Starts with George Hessler, Geoff
 18 Leventhall.
 19 **MR. HANKARD:** Yes. I have it now.
 20 **MR. ZIMMERMAN:** What he says is -- page 35,
 21 it's on the second page, second column, second from
 22 the bottom. He's talking about ". . . aerodynamic
 23 noise may vary in level at the blade-passing
 24 frequency" -- I'm quoting from this -- "giving

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1 amplitude modulation (swish) about once per second.
 2 Frequencies in the higher kilohertz range" -- we had
 3 500 and 1,000 her. Those are the higher ones -- "are
 4 heavily attenuated" -- as in lessened -- "by air
 5 absorption and are not normally a factor in wind
 6 turbine noise at residences."
 7 How do you factor in the air absorption?
 8 Here it's saying that the noise is heavily attenuated
 9 by the air absorption. Do you factor that into your
 10 model?
 11 **MR. HANKARD:** We do, yes. The ISO 9613
 12 standard that I follow and most others follow has a
 13 set of coefficients that you can choose one of those
 14 sets to mimic how the atmosphere attenuates sound.
 15 **MR. ZIMMERMAN:** And have you had much
 16 variation in your real measuring versus the modeling
 17 concerning the air absorption?
 18 **MR. HANKARD:** Well, there's no way to just
 19 tease that one attribute out because everything is
 20 occurring. The sound is spreading out. It's
 21 reflecting off the ground. There's the atmosphere.
 22 So that would be a detailed scientific study beyond
 23 the scope of your average compliance survey.
 24 **MR. ZIMMERMAN:** Do you generally find that

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1 it attenuates by air absorption?
 2 **MR. HANKARD:** That one of the things we
 3 actually don't have to argue about. Everyone pretty
 4 much agrees on the atmospheric absorption part of the
 5 standard.
 6 **MR. DEAN:** Dr. Schomer mentioned a word
 7 called "infrasound." Could you help me understand
 8 what that word is?
 9 **MR. HANKARD:** Sure. Infrasound is generally
 10 defined as the sound between 0 and 20 hertz, so very,
 11 very low in frequency. It would be, again, off the
 12 keyboard.
 13 **MR. DEAN:** Can you get high annoyance sound
 14 from infrasound?
 15 **MR. HANKARD:** Generally, no. The human ear
 16 is far, far less sensitive to low frequency sounds as
 17 it is to 500 hertz, let's say. I mean, there's a
 18 chart on the very page that you just referred to
 19 showing the hearing threshold. And you'll see that,
 20 you know, the hearing threshold down in the infrasound
 21 range is somewhere between, say, 100 and 130.
 22 Turbines don't produce those levels of sound, even
 23 close.
 24 **MR. DEAN:** Okay. Thank you.

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1 **MR. DICK:** Could you explain the difference
 2 in sound generated by a taller, 500-foot turbine
 3 versus a 400-foot turbine in terms of requirement as
 4 far as how far it needs to be to have the same amount
 5 of sound?
 6 **MR. HANKARD:** Sure. As Dr. Schomer alluded,
 7 it's really not about the height of the turbine, per
 8 se.
 9 In our models, we do tell where the height
 10 is; so it's accounted for, but height is not the
 11 determinant of noise level. It's blade length, blade
 12 speed, things like that.
 13 So when we start a new project, if we're
 14 using bigger and louder turbines, then they're going
 15 to have to be spaced out more. That's all there is to
 16 it. That is accounted for in the model.
 17 **MR. DICK:** So the same wind farm, you would
 18 have to have these turbines further from people's
 19 homes in order to comply?
 20 **MR. HANKARD:** That's correct. If you
 21 modeled it with a smaller turbine, you might be able
 22 to have setbacks of 1,500 feet; whereas, it might be
 23 18 or 2,000 for a larger, louder turbine.
 24 **MR. DICK:** Then when you ran your model, you

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1 determined whether or not they needed to have
 2 feathered blades?
 3 **MR. HANKARD:** Yeah. They're called
 4 low-noise trailing edge blades. Correct.
 5 **MR. ZIMMERMAN:** And how much do the
 6 low-noise trailing edge blades cut in terms of
 7 decibels?
 8 **MR. HANKARD:** It depends on the frequency.
 9 Everything in sound is frequency dependent; so I
 10 always have to caveat everything. But it's about 3
 11 dB.
 12 **MR. ZIMMERMAN:** And for the bats, we were --
 13 somebody agreed that if they don't start the turbines
 14 until the wind was higher, they wouldn't get bats. In
 15 this case, we're looking to abate noise or avoid
 16 louder noises. Is there a particular speed at which
 17 the turbines could be shut off if they were that much
 18 higher?
 19 **MR. HANKARD:** Yes. So modern turbines have
 20 an ability to be -- well, they're programmed. They
 21 are constantly searching for the wind. They are
 22 constantly facing the wind and trying to adjust their
 23 blade pitch such that they turn as fast as they can
 24 such that they extract as much electricity from the

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1 air as possible. That's their program. They're like
 2 a pit bull on the wind.
 3 You can program them to heel, so to speak,
 4 and turn the blades such that they don't go as fast as
 5 they otherwise could, which reduces the noise. It's
 6 called noise-reduced operation. It's a programming
 7 change. You can reduce levels in roughly 1 decibel
 8 steps. They usually offer different modes. Low noise
 9 mode 1 would be 1 dB annoyed. Low noise mode 2 would
 10 be 2 dB down. And, of course, you don't produce as
 11 much electricity as you otherwise would. That's the
 12 trade-off.
 13 **MR. BANGERT:** Have you been called out on
 14 complaints, noise complaints, and taken these
 15 measurements?
 16 **MR. HANKARD:** Absolutely.
 17 **MR. BANGERT:** What have been your findings
 18 as far as decibel ratings? What have been your
 19 findings?
 20 **MR. HANKARD:** There was the one project
 21 where there was an exceedence by a couple of dB. There
 22 have been some inconclusive projects. But by and
 23 large, we find that the projects are in compliance
 24 with the predicted levels and within the limits.

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1 **MR. BANGERT:** Did the complaints go away?
 2 **MR. HANKARD:** I mean, I don't know because
 3 they don't call me. They call the energy company.
 4 But I wouldn't think that me telling them all is well
 5 is going to make them suddenly think all is well. I'm
 6 not a fool. I'm just the guy that measures and
 7 determines if they're in compliance with the law or
 8 not.
 9 **MR. BANGERT:** Okay. Thank you.
 10 **MR. DEAN:** Do you need a state license or
 11 something to make that determination?
 12 **MR. HANKARD:** There's no such thing as a
 13 state license in acoustics other than the state of
 14 Oregon.
 15 I am a member of two professional societies,
 16 and I work regularly with, for example, each member of
 17 this paper. Except for Geoff Leventhall, I have
 18 personally worked with each of these people. I have
 19 worked with Paul Schomer on multiple projects.
 20 **CHAIRMAN FINNIGAN:** I think you are
 21 released. We appreciate you coming down.
 22 **MR. HANKARD:** Thank you.
 23 **MS. WALLEY:** Did you have another witness,
 24 Mr. Luetkehans?

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1 **MR. LUETKEHANS:** We would ask that
 2 Mr. Parzyck come to the stand. Before we do, we would
 3 ask to enter Exhibits 11 -- SLG Exhibits 11, 13, 16,
 4 19, 20, and 21.
 5 **CHAIRMAN FINNIGAN:** We have all of those,
 6 right?
 7 **MR. LUETKEHANS:** They were the ones that
 8 were in Dr. Schomer's direct.
 9 **CHAIRMAN FINNIGAN:** Those will be entered
 10 into the record.
 11 **MR. LUETKEHANS:** Thank you.
 12 **CHAIRMAN FINNIGAN:** Mr. Parzyck, you are
 13 still under oath.
 14 **MR. PARZYCK:** Yes, I am. Thank you.
 15 **CHAIRMAN FINNIGAN:** We still need your name
 16 and address.
 17 **MR. PARZYCK:** Kevin Parzyck, P-a-r-z-y-c-k.
 18 1 South Wacker Drive, Suite 1800, Chicago, 60606.
 19 **KEVIN PARZYCK,**
 20 a witness previously called by the Applicant, having
 21 been previously sworn to tell the truth, was examined
 22 and testified upon his oath as follows:
 23 **CROSS-EXAMINATION**
 24 **BY MR. LUETKEHANS:**

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1 Q. Mr. Parzyck, Burns McDonnell was your
 2 decommissioning engineer, correct?
 3 **A. That's correct. They prepared the report**
 4 **for this application.**
 5 Q. They estimated the decommissioning cost to
 6 be \$5,280,000, approximately, or \$52,800 per turbine,
 7 correct?
 8 **A. That sound right. I don't have it in front**
 9 **of me, but that sounds right.**
 10 Q. Do you recall when they were given that
 11 assignment?
 12 **A. No idea. I would imagine sometime by the**
 13 **time we finalize the layout, sometime this past fall.**
 14 Q. So several months before they finished it?
 15 **A. Probably, yeah.**
 16 Q. And that was for 100 wind turbines, correct?
 17 **A. Yes. Well, somewhere -- it was done on a**
 18 **per-turbine basis, based on 100 turbine locations, so**
 19 **you amortize some of the fixed costs.**
 20 Q. You were involved in the Pleasant Ridge
 21 application, correct: That was your project as well?
 22 **A. It was.**
 23 Q. And that, again, just for the record, is the
 24 Livingston County project?

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1 **A. Yes.**
 2 Q. I'm not allowed to testify. You are.
 3 You were present when the decommissioning
 4 study was presented on behalf of Invenergy in
 5 Livingston County, correct?
 6 **A. Yes, I was.**
 7 Q. For the record, you prepared that for
 8 Invenergy; is that correct?
 9 **A. Yes, I did.**
 10 Q. That's SLG Exhibit 9? Is that correct?
 11 **A. Yes, it is.**
 12 Q. Stantec is the same company that performed
 13 the shadow flicker study for you on this application,
 14 correct?
 15 **A. Yes, they did.**
 16 Q. If you go to the page 10 of the Stantec
 17 Report, you'll see the decommissioning study presented
 18 by Invenergy for -- it was 136 turbines, correct? Do
 19 you recall?
 20 **A. Gee, I don't recall. It says here it's**
 21 **based on 136 turbines, so yes.**
 22 Q. The total for 136 turbines at that location
 23 was \$5,020,000 and change, correct?
 24 **A. Yeah.**

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1 Q. And that averaged out, according to Stantec
 2 at \$36,977 per turbine, correct?
 3 **A. That's correct.**
 4 Q. And after questions were raised about the
 5 decommissioning study, Livingston County hired an
 6 independent expert to review -- to do its own
 7 decommissioning study; is that correct?
 8 **MR. GRIFFIN:** I'm going to object to
 9 questions about what Livingston County did concerning
 10 the other project. It's not relevant here. He didn't
 11 testify about Livingston County in his direct
 12 examination.
 13 **MR. LUETKEHANS:** It's just the basis for my
 14 next question.
 15 **CHAIRMAN FINNIGAN:** I agree with you. We're
 16 going back on what we're doing in McLean County.
 17 **MR. LUETKEHANS:** Well, I think the point is
 18 to show that a third-party engineer -- and if we had
 19 time, we would have gotten one; but there's about four
 20 weeks to do this process -- showed that in Livingston
 21 County -- the third-party engineer showed that the
 22 costs were 50 percent of what they actually estimated.
 23 **CHAIRMAN FINNIGAN:** You just testified to
 24 that; so we have no idea.

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1 **MR. LUETKEHANS:** Mr. Parzyck can testify to
 2 that. He was at both hearings. He can testify to it.
 3 **CHAIRMAN FINNIGAN:** We're going to hold the
 4 cross-examination to what was testified for
 5 originally. That's what he was brought back for.
 6 **MR. LUETKEHANS:** Wait a second. Then I
 7 would ask that my cross-examination end and I bring in
 8 my Case in Chief since he's here. He's here. I'm
 9 asking to call him as an adverse witness in my Case in
 10 Chief, not as a cross-examination.
 11 **MR. GRIFFIN:** There's no right to do that
 12 under your rules. This isn't a trial. The Board has
 13 subpoena power, but nobody else does.
 14 **MR. LUETKEHANS:** I'm not subpoenaing him.
 15 He's sitting here, and I'm asking him to testify.
 16 **CHAIRMAN FINNIGAN:** You asked us last night
 17 to bring him back for cross-examination, and that's
 18 what we've done. We're trying to live within what was
 19 testified. I think that's our ruling.
 20 **MR. LUETKEHANS:** Okay. No further
 21 questions.
 22 **CHAIRMAN FINNIGAN:** Hold it. You've got to
 23 go through the Board.
 24 Does anyone on the Board have questions?

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1 Now is your chance. Julia is thinking.
 2 **MR. DEAN:** Mr. Parzyck, for the
 3 decommissioning study done here in McLean County, do
 4 you think that's a fair number?
 5 **MR. PARZYCK:** I do. It was a different
 6 engineering firm than was used on another project. I
 7 think it's a fair number. I think we can look at
 8 different numbers across the industry. It's
 9 reasonable. And again, as was pointed out in earlier
 10 testimony, it is re-evaluated on a regular basis to
 11 make sure that construction cost, decommissioning
 12 cost, and salvage values are re-evaluated regularly.
 13 This is in accordance with the AIMA document.
 14 **MR. DEAN:** Help me understand about the
 15 decommissioning. Do you have to have bonds? Go
 16 through that process for me.
 17 **MR. PARZYCK:** It's a financial instrument
 18 which the County will be the beneficiary of; so it's a
 19 bond, essentially. That bond has to be regularly
 20 maintained with a reputable bonding firm.
 21 And then, like I said, the County would be
 22 the beneficiary if, after the period of operation, the
 23 turbines remain standing.
 24 **MR. KURITZ:** Do you ever use the contractors

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1 that you use around the country to erect these to give
 2 you estimates of the decommissioning costs instead of
 3 engineers?
 4 **MR. PARZYCK:** That's a very good question.
 5 Actually, we haven't done that as of late because
 6 generally most organizations are looking for someone
 7 with a professional engineering stamp; so they will
 8 use an engineering firm. That's just been sort of our
 9 process throughout the years.
 10 I mean, in some ways, one could look at
 11 going after somebody like National Wrecking or
 12 somebody like that that really knows how to take
 13 things down. They're probably not as meticulous as
 14 somebody who erects it, but they are very particular
 15 about separating out salvageable products, et cetera.
 16 In the end, that's probably who would take these
 17 things down.
 18 **MR. KURITZ:** I'm a contractor. I trust our
 19 estimates.
 20 **MR. PARZYCK:** True.
 21 **MR. ZIMMERMAN:** You started with one number,
 22 and then you came back and changed it. What was the
 23 ballpark?
 24 **MR. PARZYCK:** I think the first number was

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1 somewhere on the order of 42 or 46,000. It was
 2 pointed out that the depth of removal was 48 inches by
 3 the gentleman from the Farm Bureau.
 4 We went back and said, "You're correct," and
 5 we modified it to go down 60 inches on the foundation.
 6 That increased the cost.
 7 **MR. ZIMMERMAN:** Yeah. Ballpark, what did it
 8 increase the cost to?
 9 **MR. PARZYCK:** I think it was about 10 grand
 10 a turbine.
 11 **MS. TURNER:** I did find one on
 12 decommissioning I had.
 13 **CHAIRMAN FINNIGAN:** Go for it.
 14 **MS. TURNER:** Just so I understand it, in
 15 what I have read, the decommissioning is determined by
 16 the end of the lease and the nonrenewal of the lease;
 17 is that correct? Or how is it determined when a tower
 18 is going to be decommissioned?
 19 **MR. PARZYCK:** It's no longer operating.
 20 There's a period of time where, if the wind farm as a
 21 whole is not operational for a period of time and is
 22 not generating energy.
 23 **MS. TURNER:** So it is a period of time. Do
 24 you know what that period of time is, or where I would

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1 find it in here? Because that was my exact thought.
 2 **MR. PARZYCK:** I don't have that at my
 3 fingertips. I can find out and provide it.
 4 **MS. TURNER:** That would be great.
 5 **MR. PARZYCK:** We'll do that.
 6 **MR. DICK:** It's in the ordinance.
 7 **MS. TURNER:** In our ordinance? Okay. I'll
 8 find it then.
 9 **MR. GRIFFIN:** The AIMA with the Department
 10 of Agriculture may also have some time frames in which
 11 to decommission. I don't recall as I sit here.
 12 **CHAIRMAN FINNIGAN:** Staff have any
 13 questions?
 14 **MR. DICK:** In the long run, do you think
 15 that it is possible and likely that, if these turbines
 16 are built, that they would be replaced indefinitely
 17 and not be decommissioned?
 18 **MR. PARZYCK:** You know, it's hard for me to
 19 postulate. I will say, as I've said before, that the
 20 location of a generating facility is critical to the
 21 operation of a grid and how electricity is provided to
 22 end users.
 23 The fact that we will be connected to a
 24 transmission line with a connection facility and that

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1 we have an infrastructure in place to bring the power
 2 all together from these, it is very likely that, as
 3 technology improves, this infrastructure will be
 4 utilized to continue to operate this as long as
 5 possible -- unless we get cold fusion or something.
 6 **CHAIRMAN FINNIGAN:** Nobody can predict the
 7 future. I think you are released. Thank you for
 8 coming.
 9 **MS. WALLEY:** Mr. Luetkehans, did you have
 10 any other witnesses?
 11 **MR. LUETKEHANS:** I have two things I would
 12 like to raise. One is we would move to strike
 13 Professor Loomis's testimony and the School
 14 Superintendent's testimony, Mr. Capasso, as irrelevant
 15 as well as any other testimony related to economics or
 16 jobs. Information like that clearly is not related to
 17 or relevant to any of the seven special use standards
 18 in your ordinance.
 19 In fact, I believe the Chairman mentioned
 20 that as well in a prior board meeting, and we believe
 21 that testimony should be stricken as well as
 22 Mr. Loomis's report.
 23 **MR. GRIFFIN:** If I can respond, one, I
 24 realize Mr. Luetkehans was not in attendance the first

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1 few nights; but to the extent that one had an
 2 objection -- his clients had an objection to the
 3 relevancy of that report, that should have been made
 4 at the time the testimony was made or the report was
 5 submitted. Any argument on that has been waived.
 6 Second, the economic impact of the project
 7 does relate to the public health, safety, and welfare
 8 and the public benefits of the project; so we believe
 9 it does relate to the standards for a special use that
 10 this Board is to consider.
 11 Additionally, I would point out, under
 12 Illinois law, under the County's code, school boards
 13 are expressly permitted by law to appear and testify
 14 before zoning boards to talk about the impacts of
 15 projects on the schools. So for all of those reasons,
 16 we believe that there's no basis to strike that
 17 testimony.
 18 **CHAIRMAN FINNIGAN:** We'll take that under
 19 advisement. We're not going to be done tonight
 20 anyway. We'll get back to you on that. I think we're
 21 ready for the next one.
 22 Before we get done tonight, I'm going to
 23 clarify what I said when we started. I misspoke, I
 24 guess. I was kind of referring to the Mr. John Slagel

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1 report last night when I said we will put weight on
 2 experts. He was an expert in computers, and he was a
 3 nice guy. We appreciated his talk. We will put our
 4 own weight on what he said. He was not an expert on
 5 noise, and that's what I was trying to refer to.
 6 Everybody is welcome to come up here and
 7 speak. We will take your testimony, and we listen to
 8 all of it. That's what I was referring to. Sorry for
 9 the miscommunication.
 10 **MR. LUETKEHANS:** We have one other exhibit
 11 to ask to be admitted into evidence.
 12 **MS. WALLEY:** Do you have some related
 13 foundation for this?
 14 **MR. LUETKEHANS:** Only me. Normally I
 15 wouldn't say this is an exhibit; but to keep it in the
 16 record, I'd ask that it be marked as SLG Exhibit 2.
 17 This is a Memorandum of Law regarding noise emissions
 18 and standards under the IPCB relations. I'm not
 19 asking for anything now. I'm just submitting it to
 20 your review and your lawyer's review. It gives you a
 21 little heads-up on our position, as you heard earlier
 22 today, and will hear again in closing.
 23 **CHAIRMAN FINNIGAN:** Our counsel says we'll
 24 take that under advisement.

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1 **MR. LUETKEHANS:** It's a position statement
 2 on noise, in essence.
 3 **MS. WALLEY:** Anything else, Mr. Luetkehans?
 4 **MR. LUETKEHANS:** No. That will do it.
 5 Thank you.
 6 **MR. DICK:** Andrew Downy?
 7 (No response.)
 8 **MR. DICK:** Yale Young?
 9 **MS. WALLEY:** Before you start, were you
 10 looking to be qualified as an expert?
 11 **MR. YOUNG:** No. A long ways from it. My
 12 name is Yale Young, and I reside at --
 13 **CHAIRMAN FINNIGAN:** I got to swear you in
 14 first.
 15 (Yale Young sworn.)
 16 **CHAIRMAN FINNIGAN:** Would you state your
 17 name and address for the record and spell your last
 18 name?
 19 **MR. YOUNG:** You bet. Yale Young, Y-o-u-n-g.
 20 I reside at 27297 East, 2250 North Road in Lexington.
 21 **PRESENTATION**
 22 **BY MR. YOUNG:**
 23 I have four main points this evening that I
 24 want to visit with you about. They are the IDNR

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1 recommendations, the site and location of turbine
 2 number 65, the impact on our farm, and the activities
 3 for which we use our property. I am not opposed to
 4 the wind farm. I'm just concerned about the location
 5 of number 65.
 6 The IDNR recommendation number 5 states that
 7 the Department recommends that the County consider
 8 imposing a requirement for the Applicant to avoid
 9 setting turbines within 500 feet of a perennial
 10 stream.
 11 "While this requirement will not eliminate
 12 effects to aquatic habitats from noise, vibration, and
 13 flicker, those effects resulting from wave forms,"
 14 which are noise and vibrations, "generally conform to
 15 the inverse-square law of physics, where doubling the
 16 distance reduces the impact to one-fourth. The
 17 Department does not believe that 500 feet is adequate
 18 to eliminate such effects, and such effects may be
 19 significant at that distance."
 20 The IDNR also states that the "Applicant
 21 could consider sponsoring scientific research to
 22 measure and report the effects of turbine noise,
 23 vibration, and flicker . . ."
 24 In the application, Section 3-17-2, the

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1 Applicant will implement the IDNR/U.S. Fish and
 2 Wildlife recommendations unless it presents credible
 3 evidence against the recommendation.
 4 One of the Applicant's responses was a
 5 five-page report to add four pictures and five
 6 sentences, comments such as "Proposed locations are at
 7 least 300 feet from perennial streams." Another one
 8 was "No specific basis for a 500-foot setback." Is
 9 that really credible evidence?
 10 As stated above, the IDNR states the
 11 Department does not believe that 500 feet is adequate
 12 to eliminate such effects. I want to put trust into a
 13 state agency myself that their job is to protect the
 14 resources of our state.
 15 The Applicant also states the location of
 16 these turbines will not have a direct impact on
 17 streams, river beds ,or the aquatic life that lives
 18 within them. Can the Applicant prove that that is not
 19 the case?
 20 Even though it is a recommendation, I
 21 strongly urge the County Board and you folks at ZBA to
 22 require the Applicant to follow the IDNR
 23 recommendations to protect what natural resources we
 24 have here in McLean County.

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1 Wind turbine number 65 sits on a parcel of
 2 240 acres of farmland, which is a piece of property
 3 three-quarters of a mile long by a half mile wide with
 4 Patton Creek running through it.
 5 Do we have slide number 1?
 6 There's no reason why it does not follow all
 7 the required setbacks. It could be moved to the north
 8 of Patton Creek or the northeast and still meet all
 9 the required setbacks. Please refer to the first map.
 10 The original site is 380 feet from Patton
 11 Creek, and I have shown a new proposed site on the
 12 same parcel; so the landowner can have that. It meets
 13 the 500 feet setback from the perennial stream, 1,500
 14 feet from the residence, and 550 feet from a
 15 nonparticipatory property line. On the map, the
 16 triangle represents the proposed site.
 17 I reached out to the Applicant about two and
 18 a half weeks ago to visit about moving number 65. I
 19 was told from the Invenergy representative it could
 20 not be moved more than 99 feet or the Applicant would
 21 have to reapply with the FAA and that it could not be
 22 done because they had deadlines to meet. What
 23 deadlines?
 24 To this day, I have not been contacted from

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1 the Applicant to resolve this matter. Lack of effort
 2 to resolve such issues or follow the IDNR
 3 recommendations due to deadlines is less than
 4 reasonable as the turbines are not temporary and will
 5 impact the individuals living among them.
 6 To conclude this point, I would like to
 7 request to the County Board and the ZBA to require
 8 turbine 65 be moved to the proposed site to minimize
 9 the impact on the creek, the wildlife, and my family.
 10 Please reference the second map for our
 11 outdoor activities, and realize the previously
 12 reference as a drainage ditch. Patton Creek does not
 13 run in a straight line or have deep banks. Patton
 14 Creek is highlighted here in green, and that sure
 15 don't look straight to me.
 16 The biggest reason our family purchased this
 17 property in 2012 was to be outdoors and raise our
 18 family on a small farm where we can instill work
 19 values in our family.
 20 I have been involved in the livestock
 21 business my whole live and have been fortunate to
 22 travel the United States touring livestock operations
 23 by participating in junior youth organizations. My
 24 wife and I want our children to have the same

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1 opportunities. I started Young Cattle Company in
 2 2000, and today approximately 20 to 25 percent of my
 3 family's income comes from that operation.
 4 We purchased this property and have since
 5 added to it, including a new barn, 1,200 ton of gravel
 6 for a barnyard, a professionally built fence. Many
 7 hours of hard work went into the new livestock
 8 facilities.
 9 McLean County and our property is the
 10 specific reason we moved to Lexington. My wife and I
 11 both work in the public, and it's very nice to come
 12 home to the piece and quiet of a rural home. We enjoy
 13 most of our time outside in every season.
 14 This is the place we call home. It's not
 15 just a refuge for my family and the wildlife, but
 16 friends, family and the community. We have hosted
 17 livestock judging teams from universities, over 100
 18 family members for a weekend, and multiple field trips
 19 for school-age kids to visit the farm and partake in
 20 the process of maple syrup. Families from the AGR
 21 class come every year for a reunion, and we also host
 22 multiple cookouts for work gatherings.
 23 Our family loves to share our property as it
 24 has miles of trails through the timber where you can

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1 explore. Looking for deer sheds, wild leeks in the
 2 spring, mushroom hunting, collecting sap, or just
 3 taking a family walk through the timber after a
 4 stressful week are regular occurrences at our place.
 5 Our children love watching deer out the
 6 windows and enjoying the sounds of the great horned
 7 owls as we do chores every night. The girls have
 8 found Indians beads and arrowheads from the Kickapoo
 9 Indian tribe that once inhabited our property from
 10 spending hours playing in Patton Creek with the kids.
 11 They love to fish and tube down the creek and spend
 12 countless hours walking through the cow herd, watching
 13 the baby calves frolic without any cares in the world.
 14 The landscapes that are located in this area
 15 are far and few between, and we can enjoy all that
 16 nature has to offer out our back door. It is an
 17 interrupted piece of heaven. Our outdoors is a source
 18 of family entertainment and has produced countless
 19 memories.
 20 As stated in the application, the proposed
 21 special use will not be injurious to the use and
 22 enjoyment, enjoyment of other property in the
 23 immediate vicinity for purposes already permitted or
 24 substantially diminish property values in the

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1 immediate area.
 2 Our family has invested a lot of time,
 3 money, sweat, and tears into this property we call our
 4 home. Will the Applicant purchase my property because
 5 we can't use it for intended purposes? Can my family
 6 use our property as we use it today? Will the
 7 low-tone droning noise impact the ability of our
 8 family to enjoy the property as we've done the last
 9 five years? These are questions I know will not get
 10 an immediate response, but that is why it is very
 11 important to move turbine 65 to the proposed site.
 12 In Section 2.5, application number one
 13 states: "The proposed special use will not be
 14 detrimental to or endanger the health, safety, morale,
 15 temper, or welfare of the public."
 16 So should my wife and 7-year-old daughter
 17 stay inside or have to leave the property because they
 18 are afraid to enjoy the outdoors? Because they do
 19 both suffer from migraines. When they are down and
 20 out with a migraine, they need it to be completely
 21 silent, will they be able to take refuge in our home
 22 without the sounds of turbines reaching beyond our
 23 walls?
 24 Our household is listed at 43.9 decibels at

1 our house. The Applicants also take these readings at
 2 property lines and not at the house.
 3 Why shouldn't my 7-year-old daughter not
 4 enjoy her fishing spot that is only 1,000 feet away
 5 from turbine 65. Who knows how loud it is there?
 6 These readings need to be taken at property lines.
 7 In conclusion -- please go to slide three.
 8 I want to bring a face to a lot of these issues we've
 9 talked about. In conclusion, our property is a very
 10 unique 18 acres track of timber and 18 acres of
 11 pasture. That is very rare in Central Illinois.
 12 Our property has timber and grasslands that
 13 connect to the Mackinaw River to the south. The only
 14 problem is it is over three-quarters to a mile away
 15 from the Mackinaw; therefore, it is not protected by
 16 the IDNR setback of half a mile, a guideline that the
 17 Applicant has stated that they would follow. This is
 18 sad as turbine 65 only sits 1,000 feet from our timber
 19 and displacement of wildlife is a big concern.
 20 IDNR made recommendations for a reason, and
 21 the Applicant is not above that and should follow the
 22 recommendations.
 23 Turbine number 65 sits on a 240-acre tract
 24 of land and has no issue why it can't be moved. Our

1 **MR. YOUNG:** I am the beef person of our
 2 operation. My wife is the fishing person specialist.
 3 I have honestly no idea. There's a picture up there
 4 of a fish with my daughter. You can go back to slide
 5 3. But I can't answer that.
 6 **MS. TURNER:** Is there water in the stream
 7 year around?
 8 **MR. YOUNG:** We moved and purchased the creek
 9 in the fall of 2012, which I would consider a drought
 10 year. It never went dry that year. And this year
 11 that creek never went dry. That's why it's considered
 12 a perennial stream.
 13 **MS. TURNER:** You said it's 380 feet from the
 14 stream right now?
 15 **MR. YOUNG:** That is the proposed site is 380
 16 feet from the stream.
 17 **MS. TURNER:** How far is it from your house?
 18 **MR. YOUNG:** Not knowing the GPS coordinates,
 19 my estimates are between 1,550 and 1,650 feet but only
 20 about -- my estimate would be 900 to 1,050 feet from
 21 our property line.
 22 **MR. ZIMMERMAN:** Have you seen bats there?
 23 **MR. YOUNG:** Yes. We see them especially in
 24 the summertime. And along Patton Creek, we see a lot

1 property should not be at the risk of being devalued.
 2 Our lifestyle should not be affected. And, most
 3 importantly, the health of my family should not have
 4 to suffer.
 5 Should the Zoning Board decide to approve
 6 this wind farm, they should also mandate moving
 7 turbine 65 to the recommended location or eliminate it
 8 from the project.
 9 I Invenergy has stated at the public hearings
 10 that they want to work with the public to see this
 11 project passed. It is possible to work together to
 12 protect what God has given me, my family, including
 13 our lifestyle, and our property. Thank you.
 14 **MS. WALLEY:** Mr. Young, did you want your
 15 PowerPoint presentation to be admitted into the
 16 record?
 17 **MR. YOUNG:** That would be awesome. Neutral.
 18 **MS. WALLEY:** Neutral, okay.
 19 **MR. DICK:** We'll call this Neutral Exhibit
 20 Number 6.
 21 **CHAIRMAN FINNIGAN:** Questions from The
 22 Board?
 23 **MR. ZIMMERMAN:** What kind of fish are in the
 24 creek? You have this fishing area marked out here.

1 of bats. They are there very heavy. And according to
 2 one of the studies that the Applicant submitted, we
 3 are highlighted in that environmental study that our
 4 property had a lot of bats.
 5 **MR. BANGERT:** I believe it's on the first
 6 slide. We can see the dot for number 65, and I can
 7 see the text. Can you place a dot? Is it just inside
 8 that triangle, or where are you suggesting --
 9 **MR. YOUNG:** For the new site?
 10 **MR. BANGERT:** Yes.
 11 **MR. YOUNG:** I would like to explain that. I
 12 attended all of these hearings, and I hear that we're
 13 1,500 feet from the base of the house. Thanks to
 14 McLean County and this GIS site, you can do a lot of
 15 measuring off that site.
 16 So from that property just to the south of
 17 that proposed site, we're about 1,600 feet. So that
 18 line at an angle is about 1,600 feet. The measurement
 19 is 500 feet off the perennial stream.
 20 And then I believe that the Applicant's
 21 rules are 1.1 times the feet setback of the tower. So
 22 that would be 550 feet from a non-- a landowner that's
 23 not participating. So that triangle would be a new
 24 proposed site and would meet all three of the

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1 requirements.

2 **MS. TURNER:** I agree it would meet all of

3 those requirements. Are you also aware that the

4 location of the turbines is -- you know, they're in a

5 pattern where they have to be so many feet away from

6 each other. And they have other things that --

7 **MR. YOUNG:** Correct. And I researched that.

8 And that would be pretty close to straight north of

9 another turbine. There is a lot of turbines in this

10 pattern, by studying the map, that are straight north

11 and south of each other.

12 So, yes, I did study that, and it would be

13 lined up with some others in the area.

14 **MR. BANGERT:** Have you contacted Invenegy

15 to talk about that?

16 **MR. YOUNG:** You bet. Back in September --

17 so I try to be educated on everything I do before I

18 get up and speak.

19 Back in September, I walked into the

20 Lexington office, and there's a young lady working

21 there. I apologize, I don't know her name. She let

22 me take pictures of the property that was signed up.

23 They did not have any turbine sites at the time. They

24 just had the maps of the locations. So that was my

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1 first attempt.

2 Then my second attempt was, like I said in

3 my little deal here, was about two and a half weeks

4 ago. I stopped by and talked to -- I think his name

5 was Mr. Andrew Downey. We talked for about ten

6 minutes. He said he was going to get back with me,

7 and I have not heard from him since -- about moving

8 this site.

9 **MR. BANGERT:** Thank you.

10 **MR. YOUNG:** You're welcome.

11 **MR. DEAN:** There's no neighbors or anything

12 to the east of this?

13 **MR. YOUNG:** No. There would be another 240

14 acres. There's no house east of that for another,

15 wow, probably two miles to the east.

16 **MR. DEAN:** Thank you.

17 **MR. YOUNG:** Thank you.

18 **CHAIRMAN FINNIGAN:** Would staff have

19 questions?

20 **MR. DICK:** No.

21 **CHAIRMAN FINNIGAN:** Would the Applicant have

22 questions?

23 **MR. GRIFFIN:** Briefly. Mr. Young, Jim

24 Griffin with the law firm of Schain Banks, 70 West

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1 Madison Street, Chicago, Illinois, 60602.

2 I'm looking at your Neutral Exhibit 6.

3 You've got 65 there shown as a dot and then your

4 property line.

5 **MR. YOUNG:** Correct.

6 **MR. GRIFFIN:** Your estimate on distance, did

7 you look at the scale at the bottom and use that? I

8 ask that because, when I eyeball it, it seems longer

9 than the estimate.

10 **MR. YOUNG:** Mr. Griffin, what I did -- I

11 don't know if you've ever been on the McLean County

12 GIS page. There is a distance-measuring tool. So,

13 yes, I did use that tool, and that is where my

14 estimates that I stated earlier are from, from McLean

15 County's own website.

16 **MR. GRIFFIN:** Okay. All right. I was just

17 looking at the scale. All right. You've explained

18 how you came up with it.

19 **MR. YOUNG:** That's how I came up with it.

20 **CHAIRMAN FINNIGAN:** Would anyone in the

21 audience like to ask questions of this witness?

22 (No response.)

23 **CHAIRMAN FINNIGAN:** You are lucky. You are

24 off the hook.

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1 **MR. YOUNG:** Thank you. Thank you, Board

2 Members.

3 **CHAIRMAN FINNIGAN:** Well, it's five 'til; so

4 I think we're going to recess -- reconvene tomorrow

5 night, the 25th, at 6:00 in this room. We'll see you

6 then.

7

8 (Proceedings adjourned at 9:55 p.m.)

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1 STATE OF ILLINOIS)
2 COUNTY OF DeWITT) ss

3

4 I, BRENDA ZEITLER, CRR, RPR, and CSR,
5 License No. 084-004062, in and for the state of
6 Illinois, do hereby certify that the foregoing meeting
7 was taken on the 24th day of January, 2018, before the
8 McLean County Zoning Board of Appeals and that said
9 meeting was taken down in stenograph notes, afterwards
10 reduced to typewriting by me, and that this transcript
11 is a true and accurate transcription of the testimony.

12 I do hereby certify that I am a
13 disinterested person in this cause of action, that I
14 am not a relative of any party or any attorney of
15 record in this cause or an attorney for any party
16 herein or otherwise interested in the event of this
17 action, and that I am not in the employ of the
18 attorneys for either party.

19 IN WITNESS WHEREOF, I have hereunto set my hand
20 this 11th day of February, 2018.

21

22

23 Brenda Zeitler, RPR, CRR, CSR

24

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