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THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF SOUTH DAKOTA

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IN THE MATTER OF THE APPLICATION  
BY CROWNED RIDGE WIND II, LLC FOR  
A PERMIT OF A WIND ENERGY FACILITY  
IN GRANT AND CODINGTON COUNTIES

EL19-003  
  
ORIGINAL

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Transcript of Proceeding  
June 6, 2019  
11:20 a.m.  
Volume I, Pages 1-114

= = = = =

BEFORE THE PUBLIC UTILITIES COMMISSION,  
GARY HANSON, CHAIRMAN  
CHRIS NELSON, VICE CHAIRMAN  
KRISTIE FIEGEN, COMMISSIONER

COMMISSION STAFF

Karen Cremer  
Greg Rislov  
Adam de Hueck  
Darren Kearney  
Kaitlyn Baucom

A P P E A R A N C E S

Miles Schumacher and Brian Murphy,  
appearing on behalf of Crowned Ridge Wind II;  
  
David Ganje,  
appearing on behalf of the Intervenor;  
  
Kristen Edwards and Mikal Hanson,  
appearing on behalf of Staff.

Reported By Cheri McComsey Wittler, RPR, CRR  
Precision Reporting, 213 S. Main, Onida, South Dakota  
cwittler@venturecomm.net

1           The following transcript of proceedings was  
2 held in the above-entitled matter at the South Dakota  
3 State Capitol, 500 East Capitol Avenue, Pierre,  
4 South Dakota, on the 6th day of June, 2019, commencing at  
5 11:20 a.m.

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- A39-3 The Windy City: Property Value Impacts of Wind  
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- A40-3 The Scope for Biased Recall of Risk-Factor  
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- A40-4 The Placebo and Nocebo Phenomena: Their  
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A48	Public Service Commission of Wisconsin - David Hessler's Exhibit 4 - Low-Frequency Noise and Infrasound from Wind Turbines, Noise Control Engineering Journal
A49	PSC Docket No. 2535-CE-100 - Ex.-Clean Wisconsin - Hessler - 4 Low-Frequency Noise and Infrasound from Wind Turbines, Noise Control Engineering Journal
A50	Transcript of Public Service Commission of WI October 10, 2012, Docket N. 2535-CE-100
A51	Minnesota Regulation on Sound - 7030.0050 Noise Area Classification and 7030.0040 Noise Standards
A53	Final Land Status Map
A54	Replacement Final Land Status Map
A55	Proposed Turbine Drops and Moves
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 S1-A Staff's Responses to Applicant's First DR  
 S2 Darren Kearney Direct Testimony and Exhibits  
 S3 Tom Kirschenmann Direct Testimony and Exhibits  
 S4 Paige Olson Direct Testimony and Exhibits  
 S5 Additional Staff Data Requests  
 S5 Additional Staff Data Requests Confidential  
 S6 Supplemental Responses to Staff DR 6  
 S7 Staff's Proposed Lek Monitoring Condition

JUDICIAL NOTICE - SB16

INTERVENORS EXHIBITS

I1 Public Service Commission of Wisconsin - A  
 Cooperative Measurement Survey and Analysis of  
 Low Frequency and Infrasound at the Shirley  
 Wind Farm in Brown County, Wisconsin  
 I2 NARUC - 2011 - Assessing Sound Emissions from  
 Proposed Wind Farms & Measuring the Performance  
 I3 Paul Schomer and Pranav Krishna Pamidighantam -  
 A Possible Criterion for Wind Farms  
 I4 Research Gate - Health Effects from Wind  
 Turbines Low-Frequency Noise & Infrasound: Do  
 Wind Turbines Make People Sick? That is the  
 Issue  
 I5 David Hessler and George Hessler, Jr. -  
 Recommended Noise Level Design Goals and Limits  
 at Residential Receptors for Wind Turbine  
 Developments in the US  
 I6 Partial Transcript of the Evidentiary Hearing  
 of EL18-026  
 I7 Canons of Ethics for the Institute of Noise  
 Control Engineering of the USA  
 I8 Night Time Noise Guidelines 2009 (WHO)  
 I9-A Ollson 2014 Suncor Statement  
 I9-B Ollson 2014 Suncor Statement  
 I10 Ollson 2014 Presentation  
 I11 Thyen Exhibit A Memorandum 2007  
 I12 Thyen Exhibit B Release Letter 2012  
 I13 Thyen Exhibit C Sound Map 2019.5.24  
 I14 IAIA Assessment  
 I15-A DR to Intervenors 4-1  
 I15-B Jay Haley Resume

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## INTERVENORS EXHIBITS

I16 SD License Search Mr. Haley  
I17-A ND License Search Mr. Haley  
I17-B ND License Search Mr. Haley  
I18 MN License Search Mr. Haley  
I19 MN License Affidavit Mr. Haley  
I20 Mr. Haley Cover Letter App H 1/22/19  
I21 Mr. Haley Cover Letter App I 1/22/19  
I22 Mr. Haley Cover Letter Updated Appendices  
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I23 Mr. Haley Cover Letter Updated Appendices  
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I27 Mr. Haley Cover Letter Additional Structures  
Flicker Ex 3 2/19/19

1           CHAIRMAN HANSON: We will begin the evidentiary  
2 hearing in Docket EL19-003, In the Matter of the  
3 Application by Crowned Ridge Wind, LLC for a Permit of a  
4 Wind Energy Facility in Grant and Codington Counties for  
5 the limited purpose of taking Mr. David Hessler's  
6 testimony pursuant to the Staff's request for exception  
7 to procedural schedule.

8           The time is approximately 20 after 11:00. It is  
9 Thursday, June 6, 2019, and the location of the hearing  
10 is Room 413 of the State Capitol Building, 500 East  
11 Capitol Avenue, Pierre, South Dakota.

12           I am Gary Hanson, Commission Chairman.  
13 Commissioners Chris Nelson and Commissioner Fiegen are  
14 also present. I am presiding over this hearing.

15           The issues at this hearing as set forth in  
16 South Dakota Codified Law 49-41B-22 are: First, whether  
17 the proposed facility will comply with all applicable  
18 laws and rules; second, whether the facility will pose an  
19 unacceptable threat of serious injury to the environment  
20 or to the social and economic condition of the  
21 inhabitants or expected inhabitants in the siting area;  
22 third, whether the facility will substantially impair the  
23 health, safety, or welfare of the inhabitants; and,  
24 fourth, whether the facility will unduly interfere with  
25 the orderly development of the region with due

1 consideration having been given to the views of governing  
2 bodies of affected local units of government.

3 Based upon these factors, the Commission will  
4 decide whether the permit should be granted, denied --  
5 bless you, and please mute your phone.

6 Based upon these factors, the Commission will  
7 decide whether the permit should be granted, denied, or  
8 granted upon such terms, conditions, or modifications of  
9 the construction, operation, or maintenance of the  
10 project as the Commission finds appropriate.

11 The Applicant, Crowned Ridge, has the burden of  
12 proof. All parties have the right to be present and to  
13 be represented by an attorney. All persons testifying  
14 will be sworn in and subject to cross-examination by the  
15 parties. The Commission's final decision may be appealed  
16 by the parties to the State Circuit Court and the State  
17 Supreme Court.

18 Karen Cremer, our Commission counsel, will act  
19 as Hearing Examiner and will conduct the hearing subject  
20 to the Commission's oversight. She may provide  
21 recommended rulings on procedural and evidentiary  
22 matters. The Commission may overrule her preliminary  
23 rulings throughout the hearing. If not overruled, the  
24 preliminary rulings will become final rulings.

25 And my apologies to Cheri for doing exactly what



1 I asked others not to do, and that is when you are  
2 reading something, don't take off like an auctioneer. We  
3 do have a court reporter and, as I said earlier, she's  
4 very talented but when you're reading something, please  
5 read it slow enough so that people can -- so that she can  
6 keep up with you.

7 And regardless of whether we have a court  
8 reporter who cannot type two conversations at the same  
9 time, it is simply polite and required that we do not  
10 speak over one another. Make certain that you are  
11 recognized before you speak.

12 I now turn these proceedings over to Ms. Cremer.

13 MS. CREMER: Thank you, Chairman Hanson. Good  
14 morning, everyone.

15 This is how we're going to proceed today. We'll  
16 have one of Staff's witnesses testify today. Please have  
17 the witness begin with a brief summary of his testimony,  
18 and then we will go to cross-examination.

19 We will begin the evidentiary hearing by taking  
20 the appearance of the parties.

21 Crowned Ridge.

22 MR. SCHUMACHER: Thank you, Hearing Examiner  
23 Cremer. Miles Schumacher, Lynn, Jackson, Shultz &  
24 Lebrun, Sioux Falls, and Brian Murphy, Senior Attorney,  
25 on behalf of Crowned Ridge.

1 MS. CREMER: Intervenors.

2 MR. GANJE: Thank you, Ms. Cremer. This is  
3 David Ganje appearing on behalf of Intervenors.

4 MS. CREMER: Staff.

5 MR. MIKAL HANSON: Thank you, Ms. Cremer. This  
6 is Mike Hanson, staff attorney. I will be conducting the  
7 direct examination of Mr. Hessler.

8 MS. EDWARDS: This is Kristen Edwards on behalf  
9 of Staff. And at the evidentiary hearing next week  
10 Amanda Reiss will be appearing on behalf of Staff as  
11 well.

12 MS. CREMER: Thank you. Are there any motions  
13 to be addressed before we begin?

14 Hearing nothing, Commissioners, anything?

15 Hearing nothing, Staff, you may call your  
16 witness.

17 MR. MIKAL HANSON: Thank you, Ms. Cremer.  
18 Staff -- this is Mike Hanson, Staff attorney. We would  
19 call David Hessler. We believe that he is on the phone  
20 and will be testifying by phone; is that correct,  
21 Mr. Hessler?

22 MR. HESSLER: Yes. That's correct.

23 CHAIRMAN HANSON: Mr. Hessler, this is --

24 MR. HESSLER: Yes.

25 CHAIRMAN HANSON: This is Commissioner Hanson.

1 I'm going to swear you in. So on your honor you will  
2 raise your right hand.

3 (The oath is administered by Chairman Hanson.)

4 CHAIRMAN HANSON: You may proceed.

5 DIRECT EXAMINATION

6 BY MR. MIKAL HANSON:

7 Q. Mr. Hessler, would you state your name and your  
8 occupation.

9 A. Yes. It's David Hessler. I'm an acoustical  
10 engineer and vice president of Hessler & Associates,  
11 Incorporated.

12 Q. How long have you been so employed?

13 A. 28 years.

14 Q. Can you tell us your duties and responsibilities as  
15 an acoustical engineer for your company.

16 A. The company has always specialized in the design and  
17 testing exclusively of power generation facilities, and  
18 that's what I've been doing for the last 28 years. We  
19 work on every kind of power generation from gas turbine  
20 plants to renewables, to wind turbines, of course.

21 Q. And you have been asked by PUC Staff to be involved  
22 in this particular case; is that correct?

23 A. Yes. Just to offer impartial technical support.

24 Q. Have you testified in front of the South Dakota  
25 Public Utilities Commission in the past?

1 A. Yes. Several times.

2 Q. I'm going to ask you, have you reviewed or seen  
3 what's been marked as S1, Staff Exhibit 1? It is your  
4 proposed Direct Testimony that was filed prior to this  
5 hearing.

6 A. Yes. I'm familiar with that.

7 Q. And outside of the -- well, let me back up.

8 The last pages of that include kind of a resume of  
9 your work experience, do they not? Does it not?

10 A. Yes. That's Exhibit DMH-1 I think is my resume.

11 Q. And is that a fair and accurate description of your  
12 past work experience in this area?

13 A. Yes. Uh-huh.

14 Q. Now --

15 THE WITNESS: Can you excuse me for one second?  
16 I'll be right back.

17 (Pause.)

18 THE WITNESS: Sorry about that. Somebody just  
19 came in the room.

20 Q. I was asking you about your prefiled testimony.  
21 Outside of the -- maybe some modifications that you'll  
22 make in your Direct Testimony today, if we asked you the  
23 same questions, if I asked you the same questions, would  
24 you give the same answers as the prefiled testimony?

25 A. Yes.

1 MR. GANJE: Excuse me. Excuse me, Ms. Cremer.  
2 In that regard, I'll renew my standing objection.

3 I ask that the record reflect an objection to  
4 any testimony of the witness based on a Permit  
5 Application and a modeling noise and flicker report,  
6 which have not been admitted into the record and which  
7 have not been authenticated and which have not been  
8 subject to examination or cross-examination and for which  
9 no foundation has yet been laid.

10 I make that objection for the record concerning  
11 Mr. Hessler's testimony.

12 MS. CREMER: Staff, do you have a response?

13 MR. MIKAL HANSON: Well, we're asking about his  
14 Prefiled Direct Testimony. We're not asking him about  
15 those things.

16 If his prefiled testimony refers to those, I  
17 guess I'd ask it based on the preposition that those will  
18 be admitted at the evidentiary hearing on the 11th.  
19 Those questions will be related to that.

20 MS. CREMER: Crowned Ridge, do you have a  
21 response?

22 MR. MURPHY: As I said in the Ad Hoc Meeting, I  
23 have no objections to moving forward. I will be  
24 referring to issues that it sounds like the attorney for  
25 the Intervenor has a standing objection to.

1 MS. CREMER: So, Mr. Ganje, if I understand, you  
2 want to just put a standing objection in now, and then we  
3 will proceed forward; is that correct?

4 MR. GANJE: Please.

5 MS. CREMER: Okay. And so we will acknowledge  
6 his standing objection to this. And you may proceed,  
7 Staff.

8 MR. MIKAL HANSON: Thank you.

9 Q. My understanding, your answer is that you do adopt  
10 your prefiled testimony; is that correct, Mr. Hessler?

11 A. Yes.

12 MR. MIKAL HANSON: Your Honor -- or Ms. Cremer.  
13 Sorry. We move for the admission of Exhibit S1 at this  
14 time.

15 MS. CREMER: Crowned Ridge?

16 MR. MURPHY: No objection.

17 MS. CREMER: Mr. Ganje, I understand you have a  
18 standing objection, and it will be admitted.

19 Q. Have you also, in regard to the Staff's request,  
20 reviewed parts of this Application, Mr. Hessler?

21 A. Yes. I've looked at Section 13.3, which is the  
22 noise section of the general Application. And then also  
23 Appendix H, which is the actual sound study.

24 Q. And, again, my question is going to be assuming  
25 Appendix H is offered at the evidentiary hearing on the

1 11th and assuming it is admitted, your review of that,  
2 can I ask you some questions in regard to that? Are you  
3 prepared to answer them today?

4 A. Certainly. Yes.

5 Q. All right. The first question I want to ask you is  
6 the method and the quality of -- Jay Haley I believe who  
7 did this study, did you review his method and the  
8 qualifications -- or quality of his noise study?

9 A. Yes, I did. And I found it to be perfectly  
10 satisfactory. The modeling is done correctly, in my  
11 opinion, and gives accurate results. In fact, they're  
12 conservative by 2 dB because he's added an explicit  
13 safety factor onto the input turbine sound power level.  
14 So the modeling was well done.

15 Q. And have you worked with that type of modeling or  
16 software yourself in the past?

17 A. Yes. Uh-huh.

18 Q. Let me ask you another just kind of general  
19 question.

20 Based on your review, are you familiar with Grant  
21 and Codington County's noise ordinances?

22 A. Yes.

23 Q. And based on Jay Haley's noise study or modeling,  
24 does the footprint of Crowned Ridge wind farm meet those  
25 ordinances in regard to levels of noise?

1 A. Yes. Both of the counties have a slightly different  
2 requirement. Grant is 45 at nonparticipating houses, and  
3 Codrington is 50 dBA at nonparticipating property lines.  
4 The modeling shows compliance with both of those and, in  
5 fact, shows compliance with the Grant 45 dBA limit at all  
6 nonparticipants in both counties.

7 Q. Are you aware that there were some other wind  
8 turbines from another project that weren't involved in  
9 Mr. Haley's study that now maybe caused some  
10 difficulties? Were you aware of that?

11 A. Yeah. I was made aware of that later, that there  
12 was some additional noise from other turbines involved.  
13 That was beyond the initial sound study.

14 Q. And that Crowned Ridge is going to deal with that or  
15 has made a proposal to deal with that. Are you just  
16 generally aware of that fact?

17 A. Yes.

18 Q. All right. Now when you reviewed the study, did you  
19 propose to the PUC Staff that there be some changes in  
20 the positioning of certain primary turbines, wind  
21 turbines?

22 A. Yes. Even though the modeling shows compliance with  
23 the 45 dBA regulatory limit, the project layout had the  
24 unique characteristic that it had many alternate sites,  
25 mostly in the northeastern part of the project area. And



1 just almost coincidentally it turned out that if -- what  
2 I had in the original testimony was that if they had  
3 moved -- if they would move 16 primary turbines that were  
4 fairly close to nonparticipating residences to any of the  
5 alternate locations, that the sound levels at the  
6 nonparticipants in general would go down. In some cases  
7 just slightly but in other cases significantly.

8 And so I suggested which specific turbines ought to  
9 be moved if possible and outlined them in an exhibit to  
10 my testimony, DMH-2, which circles those 16 turbines.

11 Q. And, again, the purpose of that in your mind would  
12 reduce the noise levels for the nonparticipating  
13 residents around those turbines; is that correct?

14 A. Yes. That's correct. Yeah. Because I believe in  
15 addition to meeting regulatory limits, every project  
16 should attempt to minimize the sound levels at residences  
17 and, in particular, nonparticipating residences. And it  
18 was evident just from the contour plot that improvements  
19 could certainly be made to this layout to reduce the  
20 levels at nonparticipants down to the approximate  
21 vicinity of no more than 42 dBA at all of them in the  
22 project area.

23 And that's an excellent place to be. So that was  
24 the reason for my suggested rearrangement of the  
25 project.

1 Q. And, in fact, this idea of having a goal, a noise  
2 goal in mind, you've testified about that in the past,  
3 have you not?

4 A. Are you referring to the 40 dBA ideal design goal?

5 Q. Right. Correct.

6 A. Yeah. Yeah. I've maintained that for many years,  
7 that the ideal performance -- that that's where projects  
8 ought to be to have a minimal impact on the community.

9 Q. Have you acknowledged that, though, in some wind  
10 projects, that that's not an attainable goal?

11 A. I would say in most cases it's not an attainable  
12 goal. That's a very low level and requires very large  
13 setbacks to achieve.

14 Q. Now I'm going to have you refer to Staff Exhibit 1A.  
15 Are you familiar with that document, and can you pull it  
16 up on your computer or have it handy?

17 A. Yes. I have that.

18 Q. And can you describe what that is?

19 A. This is a -- in response to the Applicant's request,  
20 a Data Request, I tabulated the improvement, the  
21 approximate improvement that I speculated would result in  
22 moving all of those 16 turbines to alternate sites,  
23 specifically how much the level would go down at specific  
24 nonparticipants close to those turbines. So there's a  
25 table in there.

1 Q. And the table includes -- I think the first thing is  
2 identifying a -- identifying by code kind of the  
3 residence where the person lives?

4 A. Right. The residence, what turbine is near that  
5 house that's affecting it.

6 Q. Okay.

7 A. And what the current level is and what the estimated  
8 reduction looks like it would be if that turbine were  
9 relocated elsewhere.

10 Q. How did you come up with the estimates?

11 A. Just based on experience, optimizing project layouts  
12 in the past. I've done -- for many projects in the early  
13 design phase we take a look at the proposed layout and  
14 then iteratively made changes to it that are -- that  
15 would benefit nonparticipants in particular.

16 And then the project then assesses whether those  
17 moves are feasible or not. And it goes round and around  
18 until the project layout is optimized. But we have a lot  
19 of experience moving turbines and deleting turbines, and  
20 then I can kind of see what the end result would be  
21 approximately.

22 Normally when we do this we're at the model software  
23 and we can see the actual results. In this case I'm just  
24 estimating what the improvement would be.

25 Q. With the acknowledgment that you estimate in some --

1 as you just described, it's a fair and accurate diagram  
2 or table based on your work, knowledge, and experience?

3 A. Yes.

4 Q. There is also on this document some other answers to  
5 questions. Were those just the answers to other  
6 questions that were asked in the Data Requests?

7 A. That's correct.

8 MR. MIKAL HANSON: Ms. Cremer, I'd move for the  
9 admission of Staff Exhibit 1A.

10 MS. CREMER: Crowned Ridge, no objection?

11 MR. MURPHY: (Shakes head.)

12 MS. CREMER: Mr. Ganje, I'm assuming your  
13 standing objection is --

14 MR. GANJE: Please.

15 MS. CREMER: Thank you.

16 Staff Exhibit 1A will be admitted.

17 MR. MIKAL HANSON: Thank you.

18 Q. Mr. Hessler, after you have made those proposals,  
19 were you aware that Crowned Ridge has proposed a proposal  
20 to accept some of your modification, and there's some  
21 possible changes to turbine locations that they are at  
22 least considering?

23 A. Yes. I did see yesterday where they're offering to  
24 move seven units --

25 Q. Wait. I'm going to stop you there. You're aware of

1 some offer that they made.

2 A. That's correct.

3 MR. MIKAL HANSON: Can I ask a question of the  
4 Crowned Ridge counsel? Would that be all right?

5 MS. CREMER: Sure.

6 MR. MIKAL HANSON: Is those proposals something  
7 you don't want --

8 MR. MURPHY: It's part confidential for  
9 discussion of settlement. So, yes, it's confidential.

10 MR. MIKAL HANSON: All right.

11 Q. Mr. Hessler, just a general question. Would those  
12 answers -- would that satisfy a lot of your concerns in  
13 regard to the noise level at that project? Those --

14 A. Yes. Yeah. The proposal would go a long way  
15 towards improving the sound levels. It wouldn't do as  
16 much as I had suggested, but it would do a lot of good.

17 Q. All right.

18 If we go back to your Exhibit 1A, do you identify --  
19 almost all of those residents are nonparticipating  
20 residents, are they not?

21 A. They're all nonparticipating, yes.

22 Q. And do you have savings or some noise level  
23 differences of 5 dBAs and 4 in some those instances;  
24 correct? And 1 in some of them too.

25 A. Yes. That's correct.

1 Q. And in the area of 5, that's a noise level reduction  
2 that has some significance, does it not?

3 A. That's very significant, yes.

4 Q. Do you in your experience as a consultant in wind  
5 projects -- does noise generate public complaints that  
6 would be -- that would come to let's say the PUC?

7 Is noise something that residents can and often do  
8 complain about?

9 A. Yes. Just about every project has one to five  
10 residents who are rather upset with the project.

11 Q. And are there some levels where you can expect more  
12 complaints? Are there dBA levels where you're going to  
13 probably, from your experience and knowledge, expect more  
14 complaints?

15 A. Yeah. The entire range of potential disturbance is  
16 really only 10 dB wide from 40 to 50. At 40 the level is  
17 so low in absolute terms that most people are fine with  
18 it. But by the time they get to 50 the sound level's  
19 very prominent, if not dominant, and often causes  
20 complaints.

21 In between is 45, which is the regulatory limit  
22 here. As a general rule, I would never like to see any  
23 nonparticipant above that level.

24 Q. In your work experience have you been involved in  
25 postconstruction noise level studies? After the project

1 has been built.

2 A. Yes. About six or seven projects had a requirement  
3 in them that they had to be tested once operational, and  
4 so we had an opportunity to go back and test and see what  
5 was actually happening.

6 Q. As a wind expert asked by the Staff to participate  
7 in this, do you have a recommendation to the Commission  
8 about whether they should have a condition that requires  
9 a postconstruction wind study or that would say do a  
10 postconstruction wind study if you have complaints from  
11 nonparticipating residents?

12 Do you understand the question?

13 A. Yeah. My view is -- sorry. Yeah. My view would be  
14 to only do such a study if complaints arise or there's  
15 some reason to believe that the project is louder than  
16 the regulatory limit or louder than the expected.

17 The testing studies are a lot of time and expense  
18 involved in them. So I don't think it's something that  
19 just ought to be done just for academic sake but just  
20 only if there's a certain purpose behind it. And, even  
21 better, if there are complaints, then the testing can be  
22 organized to evaluate levels at those specific  
23 locations.

24 Q. And have you reviewed a proposed condition about  
25 postconstruction testing in this case? In this docket?

1 A. Yes. There's a draft noise condition that's just  
2 been developed recently asking that.

3 Q. And does it --

4 MR. GANJE: Excuse me. I have objections about  
5 this. This has not been circulated or labeled as an  
6 exhibit.

7 CHAIRMAN HANSON: Identify yourself, please,  
8 Mr. Ganje.

9 MR. GANJE: My apologies. David Ganje speaking.

10 CHAIRMAN HANSON: Thank you, sir.

11 MS. CREMER: Staff, do you have a response?

12 MR. MIKAL HANSON: Let me ask it more generally.

13 Q. In regard to the manner in which a -- I'll withdraw  
14 the question I just asked you.

15 But in regard to the manner in which a  
16 postconstruction noise study is done, do you have just  
17 some general outlines of how you believe is the correct  
18 way to do that?

19 A. Yes. Yeah. Any evaluation study should use  
20 automated monitors to capture a period of time long  
21 enough to capture a wide variety of wind and weather  
22 conditions. So normally such a survey would be at least  
23 seven, usually more like 14 days' duration. Just  
24 because during that period you're liable to get windy  
25 conditions.



1           If you measured for two days, the project might be  
2       idle the entire time. So normally you need to measure  
3       for an extended period.

4           Now in addition to that, the optimal way to evaluate  
5       what the sound level is at any particular location is to  
6       measure with -- both with the project on and off within a  
7       short period of time. For example, you can test and then  
8       have the project shut down the nearest turbines for just  
9       a short period, 15 minutes or so, and then have them put  
10      back in operation again.

11          What that does is provide you an accurate background  
12      level that can then be subtracted from the total level to  
13      get what the project is doing. And that's very important  
14      because background level is often very comparable to the  
15      project level. It can't be ignored. It really has to be  
16      accounted for accurately and subtracted out.

17      Q.   Everybody in this room probably has more knowledge  
18      of testing noise. I've seen where you can do something  
19      for 10 minutes, little periods of 10-minute noise study.

20          Is that an alternative way to test after the  
21      construction?

22      A.   No. A 10-minute period is very common in wind  
23      turbine work because the met tower wind data has  
24      historically been recorded in 10-minute increments, and  
25      you need that data as part of the study.

1 Q. And to your knowledge has Crowned Ridge, at least as  
2 far as you know at this point, agreed to the two week --  
3 the longer proposed study, the one that you just  
4 described first?

5 MR. GANJE: David Ganje speaking.

6 I'm going to object. That hasn't been offered  
7 in evidence. That's hearsay, and it's not a part of his  
8 prefiled testimony.

9 MS. CREMER: Do you have a response, Staff?

10 MR. MIKAL HANSON: Well, I think it's a general  
11 enough question that he can respond to that. It's a  
12 general question.

13 MS. CREMER: I'm going to allow.

14 Q. Mr. Hessler, you can answer.

15 A. Okay. Well, in the draft noise condition a seven-  
16 to 14-day period is offered, yes.

17 Q. All right. I'm just going to ask you some general  
18 questions about infrasound. I anticipate from  
19 Mr. Ganje's exhibits that you're going to be asked  
20 questions about that.

21 So, again, basically for myself and the public  
22 record, can you give us a short definition of what  
23 infrasound is?

24 A. Yeah. The infrasound associated with wind turbines  
25 that have been problematic at some sites is, I believe,

1 the blade passing pulsations that occur at around  
2 1 hertz, which is an extremely low frequency, way beyond  
3 the range that any normal instrument can measure.

4 But apparently there's a pulsation that's produced  
5 that a minority of people appear to be sensitive to and  
6 have an adverse reaction to. However, that reaction is  
7 very rare.

8 Q. In your knowledge and experience, educational  
9 training, knowledge, and experience, has infrasound been  
10 a problem in wind projects throughout the United States  
11 and even I'll include the world?

12 A. No. It hasn't been a problem throughout the world.  
13 It's only been a problem at a handful of sites that are  
14 always mentioned in these proceedings, such as Shirley  
15 and Falmouth.

16 Q. Do you expect problems with infrasound on this  
17 particular wind project?

18 A. I really don't. Because there are so many projects  
19 operating without issues. It's only a tiny minority of  
20 projects that seem to have this problem.

21 MR. MIKAL HANSON: May I take a second, your  
22 Honor.

23 (Pause.)

24 MR. MIKAL HANSON: Ms. Cremer, we would tender  
25 for cross-examination Mr. Hessler. Thank you,

1 Mr. Hessler.

2 MS. CREMER: Thank you.

3 Crowned Ridge.

4 MR. MURPHY: Thank you. I want to make sure  
5 that Mr. Hessler has received the cross-examination  
6 exhibits that I sent to Kristen and Mr. Ganje.

7 MR. MIKAL HANSON: I never saw something marked  
8 cross-examination exhibits. I saw --

9 MR. GANJE: David Ganje speaking.

10 MS. CREMER: Yes. Go ahead, Mr. Ganje.

11 MR. GANJE: Ms. Cremer, I don't know which  
12 exhibits he's referring to. Was this on the general  
13 exhibit list of a day or so ago or are these some new  
14 ones separate or were they submitted separately?

15 MS. CREMER: Could you just identify for us  
16 those numbers?

17 MR. MURPHY: The numbers are 47 through 51.

18 MS. CREMER: And when did you submit those?

19 MR. MURPHY: Just right after the Motion to  
20 Dismiss. We have copies of them given that they haven't  
21 been prefiled, and I electronically sent them to the  
22 attorneys.

23 MS. CREMER: So I'll give everyone a minute to  
24 see if they have those electronically.

25 Ms. Edwards.

1 MS. EDWARDS: I did not receive them. But I --  
2 I cannot receive e-mails over a certain size so maybe  
3 they didn't go through. But if you have a paper copy,  
4 that's fine for me.

5 MS. CREMER: And, Mr. Ganje, did you receive  
6 those?

7 MR. GANJE: I am not aware of them as I sit  
8 here.

9 MS. CREMER: Okay.

10 COMMISSIONER FIEGEN: And, Ms. Cremer, will the  
11 Commissioners get this too, Ms. Cremer? I'm going to go  
12 on mute again.

13 MS. CREMER: Yes. They have paper copies for  
14 those of us in the room, and we will get those sent to  
15 you electronically.

16 Are those exhibits you're going to need right  
17 now?

18 MR. MURPHY: (Nods head.)

19 MS. CREMER: Yeah. Okay.

20 Let's just take a couple minutes here, let's say  
21 five after, and make sure everyone has those.

22 Thank you.

23 MR. GANJE: David Ganje speaking. Could they be  
24 submitted to me by e-mail? Again, I did not receive  
25 these documents.

1 MS. CREMER: Yes. They're going to try those  
2 again.

3 (A short recess is taken.)

4 MS. CREMER: Commissioner Fiegen, are you on the  
5 line?

6 COMMISSIONER FIEGEN: I am. I am.

7 MS. CREMER: Apparently you are. And then,  
8 Mr. Hessler, are you on?

9 MR. HESSLER: Yes, I am.

10 MS. CREMER: And, Mr. Ganje, are you on?

11 MR. GANJE: I just stepped back from my PC, but  
12 I have something to report.

13 MS. CREMER: Okay. I think what we will do is  
14 break until 1 o'clock, and that way everyone can make  
15 sure they get these and have a chance to look at them.  
16 So we will be in recess until 1 o'clock.

17 Thank you.

18 MR. GANJE: Ms. Cremer, may I make a statement,  
19 please.

20 MS. CREMER: Sure.

21 MR. GANJE: Ms. Cremer, I would like to object  
22 to this last-minute disclosure of these. Apparently they  
23 were sent to me this morning, but today's the hearing. I  
24 did the courtesy of providing my exhibits four or five  
25 days ago to the opposition with regard to the prospective

1 Hessler testimony. And I'm getting --

2 You know, it's like I'm getting blindsided here.  
3 Oh, they give them to me the morning of the hearing.  
4 That's not courteous. That's very discourteous, and I'm  
5 very upset and want the record to indicate that.

6 MS. CREMER: Thank you. It is so noted.

7 I would note, however, that it's exhibits,  
8 testimony for direct. This is cross-examination, and I  
9 believe it is acceptable.

10 So we will reconvene at 1 o'clock. Thank you.

11 (A lunch recess is taken.)

12 MS. CREMER: I'm going to call this hearing back  
13 into order after the short recess. And I believe we were  
14 with Crowned Ridge.

15 MR. MURPHY: Thank you. I just wanted to check  
16 that David Hessler's on the phone.

17 MS. CREMER: Oh, yeah. Good idea. Chairman  
18 Fiegen, are you on the -- no, you're not the Chairman.

19 Commissioner Fiegen, are you on the phone?

20 COMMISSIONER FIEGEN: Commissioner Fiegen is  
21 present. Thank you.

22 MS. CREMER: And Mr. Hessler.

23 MR. HESSLER: Yes. I'm here.

24 MS. CREMER: And Mr. Ganje. Okay. He just got  
25 disconnected so we'll give him a minute to get back on.

1 (Pause.)

2 MS. CREMER: Mr. Ganje, are you on the phone?

3 MR. GANJE: Yes.

4 MS. CREMER: So is everyone else.

5 Mr. Hessler, I would remind you you are still  
6 under oath. And we will start with Crowned Ridge. Catch  
7 us up where we are.

8 MR. MURPHY: I was about to start my  
9 cross-examination. My understanding is the  
10 cross-examination exhibits have been circulated.

11 MR. GANJE: May I address the Commission?

12 MS. CREMER: Yeah. Just a minute, please.

13 Commissioner Fiegen, did you get the exhibits?

14 COMMISSIONER FIEGEN: I did. Thank you.

15 MS. CREMER: And, Mr. Ganje, did you get the  
16 exhibits?

17 MR. GANJE: I received these exhibits late this  
18 morning for the first time, and I object to the use of  
19 these exhibits. The scheduling order requires that all  
20 exhibits be disclosed, and I received this exhibit list  
21 from the Applicant on Monday of this week. These  
22 exhibits were not included. To supply these exhibits now  
23 is unfair and a denial of due process.

24 The scheduling order of the Commission does not  
25 exclude from exhibit -- any exhibits that are to be used



1 for cross-examination or other purposes. Those exhibits  
2 are also to be in the exhibit list, and they were not  
3 included.

4 MS. CREMER: Thank you, Mr. Ganje.

5 Again, I would just reiterate that this is  
6 cross-examination. And as normal practice in any  
7 courtroom or in front of us, it is the Direct Testimony  
8 and exhibits that are filed prefiled.

9 So, with that, Crowned Ridge, please proceed.

10 MR. MURPHY: Thank you.

11 CROSS-EXAMINATION

12 BY MR. MURPHY:

13 Q. Mr. Hessler, my name is Brian Murphy, and I'm  
14 representing Crowned Ridge. I will be asking you  
15 questions this afternoon. I just want to make sure that  
16 you have the exhibits electronically and for you to know  
17 I'm going to go slowly given that you're on the phone.

18 Mr. Hessler --

19 A. Okay. Yeah. I did get the exhibit, probably  
20 300 pages. And I haven't read them all.

21 Q. Thank you.

22 First I'd like to turn to Exhibit S1, which is your  
23 Direct Testimony, and I'd like to go to page 2. Can you  
24 let me know when you're there?

25 A. Okay.

1           Okay.

2       Q.    Thank you.  At the bottom of page 2 and the top of  
3   page 3 of your Direct Testimony you state that you  
4   reviewed Crowned Ridge Wind sound study and Witness  
5   Haley's Direct Testimony; is that correct?

6       A.    Yes.

7       Q.    Now if you'd go to Mr. Haley's Direct Testimony,  
8   which is marked as Exhibit A2, and let me know when you  
9   get there.

10      A.    Okay.

11      Q.    Please go to page 5 and to lines 22 through 24.

12      A.    Okay.

13      Q.    There Mr. Haley states that "The Applicant's wind  
14   turbine array will produce sounds levels of 45 dBA or  
15   less at all nonparticipant occupied structures."

16           Am I reading that testimony correctly?

17      A.    Yes.

18      Q.    Thank you.

19           I'd like to go to what was submitted to you  
20   electronically and marked as Exhibit A47.

21      A.    Okay.

22      Q.    And since you have just received this, if you would  
23   take some time and look at it, I believe you're going to  
24   recognize this as a motion that was submitted and your  
25   Amended Direct Testimony in the 2012 Champaign wind case

1 before the Ohio Power Siting Board.

2 A. Yes. I remember it.

3 Q. Okay.

4 MR. MURPHY: I'd like to enter that exhibit into  
5 the record.

6 MR. MIKAL HANSON: I guess we'd object to not  
7 being relevant.

8 MR. GANJE: I object for the reasons I've  
9 indicated before. And I would also note for the record  
10 that all of the exhibits that they're referring to are  
11 not necessarily -- have not necessarily been supplied to  
12 me.

13 For example, when I just recently looked at my  
14 e-mail today, there's one called CO -- the letters CO.  
15 There was no label to it, no identifiable labeling marked  
16 concerning it as an exhibit. That would be an example of  
17 this last minute throwing out of exhibits to which I  
18 object.

19 MS. CREMER: So, Crowned Ridge, could you not  
20 use these exhibits simply for identification purposes  
21 only at this point?

22 MR. MURPHY: Certainly. Happy to do that.

23 MS. CREMER: And then offer them if need be at  
24 the hearing beginning next week?

25 MR. MURPHY: Happy to do that.

1 MS. CREMER: All right.

2 With that, I am going to acknowledge that this  
3 is -- we're not going to admit it at this point, but it  
4 is being used for identification purposes only.

5 MR. MURPHY: Thank you.

6 Q. Mr. Hessler, this was Direct Testimony that you  
7 provided on behalf of Champaign Wind; is that correct?

8 A. Yes.

9 Q. And Champaign Wind was the Applicant in that  
10 proceeding? That is correct as well?

11 A. That's correct. Yes. Uh-huh.

12 Q. If you go to page 5 of your testimony before the  
13 Ohio Power Siting Board. And specifically I want to  
14 refer you to the response to Question 9 on page 5.

15 Let me know when you're there and you've refreshed  
16 your memory since this was 2012.

17 A. Question 9 you're talking about?

18 Q. Yeah. Your response to Question 9.

19 A. Okay. Yes. I recall that.

20 Q. Okay. Thank you.

21 The second sentence to your response to Question 9  
22 states that "A 45 dBA regulatory limit fairly balances  
23 the interests of all parties."

24 Am I reading that correctly?

25 A. Yes.

1 Q. Do you also recall that the 45 dBA regulatory limit  
2 here refers to nonparticipants and at their residence?

3 Do you recall that?

4 A. Yes.

5 Q. There you also mention -- in support of the 45 dBA  
6 regulatory limit you cite to an article you authored, an  
7 article that was published in the Noise Control  
8 Engineering Journal in January of 2011.

9 That's correct as well?

10 A. That's correct.

11 Q. Thank you.

12 Will you turn to page 7 of your testimony.

13 A. Exhibit S1 you're talking about?

14 Q. No. I'm sorry. Of the testimony that we're -- the  
15 Ohio Siting Board, the one that's marked preliminary  
16 Exhibit 47.

17 And there I want to point your attention to your  
18 response to Question 13. Just let me know when you're  
19 there.

20 MR. MIKAL HANSON: Now, just for the record,  
21 I've got that as page 11, and you called it page 7. Is  
22 there different page numbers that I'm -- I mean, I can  
23 see where you say Question 13 so I'm pretty sure the  
24 witness can find it.

25 MR. MURPHY: It's page 7 of his testimony.

1 Bates stamping is of the exhibit.

2 MR. MIKAL HANSON: All right. Thank you.

3 A. Yes. I'm there. Yeah.

4 Q. Thank you.

5 A. It's page 7 of the original testimony, but it's also  
6 page 11 of the overall document including the  
7 introduction and so on.

8 Q. Thank you. And I appreciate it. I want everybody  
9 to be on the same page.

10 In response to Question 13 you stated again that the  
11 45 dBA regulatory limit for nonparticipants is fair and  
12 reasonable. I'm reading that correctly?

13 A. That's correct.

14 Q. And then you go on to state in the second sentence  
15 that "The rate of complaints from the project sound level  
16 between 40 and 45 dBA is about 2 percent of the  
17 population."

18 Am I reading that correctly?

19 A. Yes.

20 Q. And then you conclude in the sentence that you would  
21 expect an acceptance rate for the project to be in the  
22 order of 98 percent.

23 Again, am I reading that correctly?

24 A. That's correct. That stems from postoperational  
25 tests that we did on a nearly completed project.

1 Q. Thank you. Let's go back to page 6 of this  
2 testimony and in response to Question 10.

3 A. Okay.

4 Q. And here you explain that there's also a compliance  
5 measure for sound at a level of 50 dBA at the property  
6 boundary for nonparticipants; correct?

7 A. That's correct.

8 Q. And this is the same measure of compliance imposed  
9 by Codington County for the Crowned Ridge Wind Project.  
10 Would you agree with that statement?

11 A. Yes.

12 Q. Now let's go to the top of page 7. And there you  
13 explain that the Champaign Wind Project will exceed  
14 50 dBA threshold and in some instances by 1 or 2 dBA. Am  
15 I also reading that correctly?

16 And, again, take your time. I realize this was  
17 2012.

18 A. Yeah. This is page 7 of the actual numbering or --

19 Q. Yes. At the very top. The first two lines talk  
20 about the project may exceed the dBA.

21 A. Oh, yeah. That's correct. Yeah. Yeah. I remember  
22 that. It's because the 50 dBA sound contour sometimes  
23 clipped off corners of property in tiny areas where it  
24 didn't always remain below 50.

25 Q. Thank you.

1           And in that paragraph you conclude the sentence by  
2           stating that "The 2 dBA increase would not affect the  
3           probability of an adverse reaction to the noise in that  
4           project."

5           Am I reading that correctly?

6           A.    Yes.    Because property lines are different from  
7           residences.   The main problem with wind surface noise is  
8           sleep disturbance or disturbance at night, and at a  
9           property line there's nobody out there at night so --

10          Q.    And, to your point, one of your premises, which is  
11          directly above, is that "A 2 dBA increase from 50 to 52  
12          has no tangible meaning in terms of audibility."

13          Am I reading that correct as well?

14          A.    Yeah.   That's correct.   If the level were 50 and  
15          then it would change to 52 somehow, it would sound pretty  
16          much the same.

17          Q.    Thank you.

18          Let's go back to your Direct Testimony in this case,  
19          Exhibit S1.   And let me know when you're there.

20          A.    Yeah.   Okay.

21          Q.    Go to page 9, line 17.

22          A.    Correct.   Yes.   I'm there.

23          Q.    And similar to the question and answer we just had  
24          on the 2 dBA increase, here you're saying that a 2 dBA  
25          decrease in sound is imperceptible.



1 Am I reading that correctly?

2 A. Yes.

3 Q. Thank you.

4 I'd like to in this testimony turn to page 6 at the  
5 top of line 1. At line 1. And there you state the  
6 proposal to -- I'm sorry. There you recognize that  
7 Crowned Ridge has 17 alternative turbine locations;  
8 right?

9 A. Yes.

10 Q. And then in lines 10 through 12 you propose using  
11 16 of the 17 alternative turbine locations to reduce the  
12 potential sound impact to nonparticipants; correct?

13 A. Correct.

14 Q. And you use the descriptor of the use of 16 of the  
15 17 turbines could substantially reduce the noise impact.

16 Am I reading that correctly?

17 A. That's correct.

18 Q. On lines 12 and 13 you make the presumption that the  
19 16 turbines would not necessarily impact the power  
20 production of the project, nor the economics of the  
21 project.

22 Am I reading that correctly?

23 A. That is what I said, yes.

24 Q. Thank you.

25 And is it fair to say you did not conduct an

1 analysis of the power production impact on the Crowned  
2 Ridge project?

3 A. No. This is based on the assumption that all of the  
4 sites were essentially equal and had already been  
5 developed and ready to build on, essentially.

6 Q. So you led into my next couple of questions, which  
7 you didn't conduct an analysis of the economic impact  
8 then as well; right?

9 A. No. I have no way of knowing that.

10 Q. Or the constructability of the alternative sites;  
11 correct?

12 A. That's correct.

13 Q. Thank you.

14 Now let's turn to what has been preliminary marked  
15 as A34-4, which is Exhibit 4 to Crowned Ridge Witness  
16 Haley's Rebuttal Testimony. And this is the exhibit  
17 where Mr. Haley ran a model based on your recommendation.

18 And let me know when you get there.

19 A. So that was A34-4?

20 Q. Yes. And it's entitled Table C3, 16 turbines  
21 removed as suggested by Mr. Hessler.

22 A. The only thing I'm coming up with is A34,  
23 Applicant's Responses to Intervenor's Second Set.

24 Q. Oh. 43. I'm sorry. I'm dyslexic. Which I am  
25 dyslexic.

1           MR. MIKAL HANSON: And for the purposes of the  
2           evidentiary hearing, if you want to offer this exhibit,  
3           the Staff does not object to this exhibit. And I think  
4           that this has gone out to the parties earlier than just  
5           today so, you know, the objection would appear to be not  
6           true to this exhibit.

7           MR. MURPHY: Well, I thought --

8           MR. GANJE: Mr. Ganje speaking, if I may speak,  
9           Ms. Cremer.

10          MS. CREMER: Certainly.

11          MR. GANJE: I would object to the offering of  
12          this exhibit. My standing objection clearly goes to  
13          foundation, to the authenticity, to the sound study, to  
14          the flicker study, to all of those things that would  
15          require the author and the composer of the document.

16                 To offer them now, there's no basis for it.  
17          That's the purpose for my standing objection. So counsel  
18          for the Staff is incorrect in its interpretation of my  
19          objections in this matter.

20                 I don't know, in fact, whether Mr. Murphy will  
21          bother to offer them at this time, but I want to clarify  
22          that for the purposes of my honorable colleagues on the  
23          Staff counsel who is misinterpreting what I objected to.

24                 Thank you.

25          MS. CREMER: Thank you. And yes. It hasn't

1     been offered.    So please continue.

2     Q.   Mr. Hessler, again, are you at this exhibit?  I want  
3     to make sure, since I was confusing in the beginning,  
4     transposing the numbers.

5     A.   Yes.  I've found it.

6     Q.   Thank you.

7           And this is the exhibit which Mr. Haley showed the  
8     results of your proposal to use the alternative turbine  
9     locations instead of the certain primary locations;  
10    correct?  Is that how you read it?

11    A.   That's correct.

12    Q.   And the first page of the exhibit is showing  
13    nonparticipants in Codington County.  Is that how you  
14    read it as well?

15    A.   Yes.

16    Q.   I'd like to focus the attention on the column  
17    entitled Reduction, which is the second from the last.

18           And let me know if you're there.

19    A.   Yeah.  Yeah.  I see that.

20    Q.   And when I go down that column I count three  
21    nonparticipant receptors that would -- under your  
22    proposal would experience over a 3 dBA reduction.  
23    Specifically, I'm reading in that column one recipient  
24    would receive a 4.2 reduction.  That's about halfway  
25    down.  And after that, 3.7 and 5.6.

1           Are you reading it the same way as I am?

2       A.    Yeah.  Yes.

3       Q.    Thank you.

4           Then I'd like to go to the second page and to the  
5   third page.  I'm sorry.  To the last page, which shows  
6   nonparticipants in Grant County.  And I want to make sure  
7   that we're in agreement that's what this is showing.

8       A.    On the last page.  Yeah.  Uh-huh.

9       Q.    And doing the same exercise, going to the column  
10   Reduction and going down about 13, I count one receptor  
11   in Grant County that would receive a 3 or more dBA  
12   reduction, specifically a 3.6 dBA reduction.

13           Do you see that?

14           It's about 13 down.  It is receptor CR1G16MP.

15       A.    No.  I'm not seeing that.

16       Q.    Okay.  Let's make sure that we're on the same page.  
17   This is -- I'm sorry.  It is page 3.  And the first  
18   receptor --

19       A.    Okay.  All right.  It's the second to the last page.  
20   Yep.  I see that.

21       Q.    So, again, the exercise to go down to the Reduction  
22   column, and I'm seeing, about 13 down, 1 receptor that  
23   would receive over a 3 dBA reduction under your proposal.

24           Am I reading that correct?

25       A.    Uh-huh.  Yeah.  What's wrong with that?

1 Q. Well, I'd like to focus on those four receptors that  
2 result in a 3 or greater dBA reduction under your  
3 proposal.

4 Is it fair to say that based on what you reviewed  
5 that those results can be produced without using all  
6 16 alternative turbine locations?

7 MR. GANJE: I'm going to object. We're really  
8 in a speculative area here now because we don't know what  
9 these alternative locations would be. There's no final  
10 project here. This is getting so speculative. It's even  
11 beyond cross-examination.

12 The Commissioners have clearly indicated their  
13 disappointment in the incomplete nature of this project,  
14 and it has mostly to do with where the turbines are  
15 located, that is where the lines to connect the turbines,  
16 which turbines will finally be used, which turbines won't  
17 be used, where are the collector lines, where can they  
18 have them, where can they not have them, where are the  
19 easements.

20 We're way out in the never world, and I object  
21 in that regard.

22 MS. CREMER: Staff, it's your witness. Do you  
23 have anything to add?

24 MR. MURPHY: If it helps, this is my last  
25 question.

1 MR. GANJE: Okay.

2 MR. MIKAL HANSON: We don't object. We know  
3 where the alternates are. I think it's always been clear  
4 that he said any of the alternate sites would support  
5 these reductions, and we don't object.

6 MS. CREMER: Crowned Ridge, I think you tried to  
7 say something or no.

8 MR. MURPHY: For me, I was just saying this is  
9 my last question.

10 MS. CREMER: Okay.

11 MR. MURPHY: But I do have a point of order  
12 after the question.

13 MS. CREMER: I'm going to overrule the objection  
14 and allow the answer.

15 Q. And I'm happy to repeat it, Mr. Hessler, if you want  
16 me to.

17 A. Yes, please.

18 Q. Focusing on the four receptors that were greater  
19 than 3 dBA, the question is, is it a fair statement that  
20 those reductions could be produced without using all 16  
21 alternate turbine locations, based -- and take -- you  
22 know, take time to look at your map if you want. But  
23 based on the information you provided in this proceeding.

24 A. Well, I looked at Exhibit S1-A that we talked about  
25 earlier that gave a table of the specific turbines that I

1 suggested moving and the potential benefits, and it  
2 appears that if some of those turbines were moved, there  
3 would still be a similar benefit to what we're looking at  
4 in Mr. Haley's table here, I would estimate.

5 MR. MURPHY: Thank you. Those are all the  
6 questions.

7 But I do have a point of order for the Hearing  
8 Examiner.

9 MS. CREMER: Certainly. What is that?

10 MR. MURPHY: I respect folks that want to have  
11 an objection. To me, if it's Staff witness, it's Staff's  
12 objection.

13 For the Intervenors to object based on something  
14 that's been ruled on, particularly, you know, at least  
15 three or four times already, disrupt the  
16 cross-examination, to me is not appropriate. And I would  
17 like instructions that objections are just not lobbed out  
18 there for the purposes of repeating objections that have  
19 been -- that you've ruled on previously.

20 I do not intend to do that, and I find it  
21 disruptive to trying to have a discussion with the  
22 witness. And honestly I don't understand why it needs to  
23 be done.

24 MS. CREMER: And I would just say we have always  
25 allowed all the parties to object to each other



1 repeatedly. You know, if it gets to excess, you can  
2 bring it up again, and I understand but --

3 MR. MURPHY: That's my primary point.

4 MS. CREMER: Yep. Thank you.

5 MR. MURPHY: Thank you.

6 MS. CREMER: That would take us to cross by  
7 Intervenor.

8 Mr. Ganje, please proceed.

9 MR. GANJE: Thank you.

10 CROSS-EXAMINATION

11 BY MR. GANJE:

12 Q. Are you still there, Mr. Hessler?

13 A. I'm still here.

14 Q. I apologize. My phone went dead a bit earlier today  
15 so I don't rightly know the technology that's taking  
16 place here and I want to make sure that I don't disappear  
17 again like I did this morning.

18 Mr. Hessler, I'm David Ganje, and I am representing  
19 the Intervenor in this matter. And I trust that the  
20 Staff has advised you of what my position is here?

21 A. Yes. I'm aware of it.

22 MR. MIKAL HANSON: I guess we object. We were  
23 not advising this witness of anybody's position. We have  
24 provided him with what Mr. Ganje has provided us, but we  
25 haven't advised him of any position.

1           MR. GANJE: I was incorrect in my use of that  
2 word, and I apologize. That is correct. I'm not  
3 suggesting --

4 Q. I just meant whether you've been alerted by Staff  
5 that I was representing the Intervenor in these  
6 proceedings.

7 A. Yes.

8 Q. Okay. Thank you.

9           Well, Mr. Hessler, is the maximum dBA level set by  
10 an ordinance the basis that an expert like you would use  
11 to give his opinion on acceptable dBA levels for a  
12 proposed wind project?

13 A. Well, I would start there and make sure the project  
14 meets any and all applicable regulatory limits. But I  
15 normally go beyond that and try to determine what is the  
16 minimal possible impact that a given project could result  
17 in.

18 Q. Well, that could mean there would occasionally be  
19 instances when the maximum allowed level is not the level  
20 that you would recommend; correct?

21 A. Yeah. That's correct.

22 Q. That was the point of my question, perhaps  
23 inartfully posed. I apologize.

24 A. Yeah. Let me just expand on that. The Crowned  
25 Ridge just brought up the Champaign Wind Project and the

1 regulatory limit was 45 there but we did a field survey  
2 and came up with a site-specific design goal there based  
3 on ambient conditions that was 44. Not a big difference,  
4 but it was below the regulatory limit.

5 Q. Indeed.

6 Mr. Hessler, is the minimum setback requirement of  
7 an ordinance the basis that an expert like you would use  
8 to give his opinion on an acceptable dBA level for a  
9 proposed wind project?

10 A. Well, I would worry about the sound level, not the  
11 setback distance.

12 Q. That was my question.

13 Do you base your opinions based on setback  
14 distances?

15 A. No.

16 Q. Very good.

17 Mr. Hessler, do you agree that a wind turbine noise  
18 in a rural setting is a new noise for residents in rural  
19 areas?

20 A. It often is, but I believe there's other projects  
21 around this one. Or nearby anyway.

22 Q. But that wasn't my question. Is it a new noise? Is  
23 it a new noise experience for rural residents when there  
24 are wind turbines near them?

25 A. Well, for someone in the middle of a new project it

1 would certainly be a new noise, yes.

2 MS. CREMER: Mr. Hessler, you need to stay up  
3 near your mic. You're fading out at the end.

4 MR. HESSLER: Okay.

5 MS. CREMER: Thank you.

6 Q. Mr. Hessler, in the Prevailing Winds case, you  
7 remember that case in South Dakota?

8 A. I do remember it.

9 Q. You testified in that regard in that case?

10 A. Yes.

11 Q. And did you indicate to the Commission in that case  
12 that, "we've recommended for many years that every  
13 project should shoot for an ideal design goal of 40"?

14 A. That's correct.

15 Q. Did you also state in that case that, "that should  
16 serve to much better protect the community against  
17 complaints and annoyance"?

18 A. Yes.

19 Q. In the Prevailing Winds case did you lean more  
20 towards the goal of 40 dBA as the recommendation in that  
21 case?

22 A. I did because the physical layout of the project  
23 and -- essentially allowed it to be accomplished, which  
24 is unusual.

25 Q. Mr. Hessler, was it your opinion in the Prevailing

1 Winds case that it is the duty of an engineer to do an  
2 initial background wind survey of a project area to  
3 determine what the background noise is going to be?

4 A. Well, I wouldn't call it a duty, but it's good  
5 engineering practice to do a baseline survey and then  
6 potentially derive a site-specific design goal for that  
7 project based on those readings.

8 Q. Okay. Would you kindly turn to the transcript of  
9 the Prevailing Winds exhibit that was provided to you? I  
10 think it's I-6.

11 A. Okay. I've got that.

12 Q. Thank you very much. Would you be kind enough to  
13 turn to page 751.

14 I kindly direct your attention to line 19. On  
15 line 19 of your testimony in that case in answer to the  
16 following question, "Question: And you would like to see  
17 that type of study in order to gauge the community's  
18 response to a project; correct?"

19 Was your answer, "I think it's the duty of the  
20 engineer to do that"?

21 A. I said that, but that might be a little strong.

22 Q. Okay. Is it your opinion that this type of survey  
23 or study should be done before a new project is  
24 considered by a governing body?

25 A. Like I said, I think that shows that you're

1 following good practice and you're making a sincere  
2 effort to design the project appropriately to the site  
3 and minimize community impacts.

4 Q. Mr. Hessler, I direct your attention, please, to  
5 page 773 of the Prevailing Winds transcript.

6 A. Okay. Yeah. I'm on that page.

7 Q. Okay. Very good.

8 Now I would direct your attention to line 14. And  
9 from line 14 through line 18 Commissioner Nelson asked  
10 you a question, and he asked you about the ideal design  
11 goal for a project of 40 dBA. And he asked you if that's  
12 what you would recommend.

13 On line 19 did you confirm that you would recommend  
14 that?

15 A. On line 19 I'm just saying that it needs to be  
16 measured over a two-week period to determine whether it's  
17 meeting that goal or not.

18 Q. Well, that is a goal that you have recommended to  
19 the Commission in Prevailing Winds; correct?

20 A. Yes. That was appropriate in that particular case,  
21 yes.

22 Q. Okay. Mr. Hessler, was it your opinion in the  
23 Prevailing Winds proceeding that when you are calculating  
24 the recommended dBA levels for a proposed wind farm you  
25 would use recommended levels for the nighttime as the

1 design level for a project?

2 MR. MIKAL HANSON: Your Honor -- Ms. Cremer, I'm  
3 going to object. I mean, the question should be do you  
4 recommend these levels and if he deviates from something  
5 he's testified before, then you can cross-examine him or  
6 bring up the deviation.

7 He's improperly using prior testimony as direct  
8 questions, and they should only be used to refute if he  
9 says something differently. So I object to the form of  
10 that question.

11 MS. CREMER: That was going to be my question.  
12 What's your bottom line objection?

13 MR. MIKAL HANSON: Yeah. Object to the form of  
14 that question.

15 MS. CREMER: Thank you.

16 Mr. Ganje, do you have a response?

17 MR. GANJE: Well, I think the question is  
18 properly formed for cross-examination. I'm asking the  
19 witness whether he uses nighttime as the design level  
20 goal for a project.

21 MR. MIKAL HANSON: So that should be the  
22 question, not what did he say in -- at another hearing.

23 MS. CREMER: Mr. Hessler, do you understand the  
24 question in front of you, I believe? Because I will  
25 sustain Staff's objection and, Mr. Ganje, I think you

1 then ask the question.

2 So it's in Mr. Hessler --

3 MR. GANJE: Oh, okay. It's in Mr. Hessler's  
4 court. My apologies.

5 A. Yeah. I believe I --

6 MS. CREMER: Do you need the question --

7 A. I think I understand the question.

8 Any design level, whether it's 40 or 45, is really  
9 only meaningful for the nighttime. That's when  
10 disturbance is much more likely than during the day. So  
11 whatever limit is placed on a project that's always  
12 really meant for the nighttime.

13 Q. Mr. Hessler, do you agree that a developer should  
14 make efforts to minimize the community noise impact of a  
15 wind farm project?

16 A. Yeah. Absolutely.

17 Q. Thank you.

18 Do you agree that it is in everyone's best interest,  
19 including the project owner, to minimize the chance of  
20 noise issues irrespective of any regulatory noise limits?

21 A. I certainly do. Sounds like something I said.

22 Q. Mr. Hessler, you are correct. I'll ask my next  
23 question.

24 Mr. Hessler, is it your goal as a professional that  
25 you would like to see a sound level of no more than



1 40 dBA at every nonparticipant?

2 A. Yes. We've been recommending that for years.  
3 Wherever it's practical we would like to see that done.  
4 But it's not often practical.

5 Q. Mr. Hessler, in the testimony in this case I would  
6 ask you to look at page 5. I apologize. I want to make  
7 sure I have the right exhibit, but it's your principal  
8 testimony on behalf of the Staff.

9 A. Okay. Page 5 of that?

10 Q. Yes, sir.

11 A. Okay. I'm there.

12 Q. Did you state on line 4 that "Any time wind turbine  
13 sound levels higher than about 40 dBA are predicted at  
14 residences, I would anticipate complaints with the number  
15 and severity increasing exponentially as the sound levels  
16 approach 50 dBA"?

17 A. That's correct.

18 Q. And I think you're a member of the -- I think your  
19 resume says you're a member of the Institute of Noise  
20 Control Engineering; correct?

21 A. That's correct.

22 Q. Okay. And do you follow the canon of ethics of that  
23 institute?

24 A. Yes, I do.

25 Q. Okay. Mr. Hessler, is it your opinion that the

1 Applicant in this proceeding has failed to evaluate or  
2 assess the potential noise impact of the project on the  
3 community?

4 A. Yes. I would agree with that. There's nothing in  
5 the Application, sound study, or -- well, let's just  
6 confine it to that.

7 There's nothing in the initial studies that  
8 demonstrates any kind of effort to go beyond the  
9 regulatory limit or to adapt the project to the specific  
10 site or try to minimize sound levels.

11 Q. Mr. Hessler, do the 16 turbines you've identified  
12 for possible relocation currently present risks to the  
13 safety, health, and welfare of the public?

14 A. I don't believe there's any health or safety risk  
15 from those 16 turbines. It's more a matter of potential  
16 annoyance.

17 Q. Mr. Hessler, in your testimony in this proceeding,  
18 on page 7 of your testimony you've said that the ship has  
19 sailed with regard to the question of doing a  
20 preconstruction sound survey; is that correct?

21 A. That's right, yes.

22 Q. Okay. What does it mean, please, that a ship has  
23 sailed?

24 A. It means it's too late to attempt to demonstrate  
25 that you have concerns for the community by doing a field

1 survey. That should have been done way back before the  
2 modeling was even done to establish baseline conditions  
3 and potentially come up with a design target.

4 To do it at this point would be too late because the  
5 project layout is so far advanced that it would be  
6 difficult to make any dramatic changes to improve it at  
7 this point.

8 Q. You said that -- I believe you indicated that your  
9 reason that it was too late was because it would not have  
10 a favorable effect on the community response; is that  
11 right?

12 A. Well, the purpose of doing a field survey is to  
13 quantify what the existing background level is as a  
14 function of wind speed, the wind speed that a project  
15 actually operates at and then determine from that if the  
16 project should be designed to something below the  
17 regulatory limit.

18 Typically you measure the background and try not to  
19 exceed that background by more than 5. So if, for  
20 example, the background came out to 38 dBA, a target  
21 might be 43 for the project. Like I said -- that's  
22 something that needs to be done early on and not kind of  
23 retroactively now.

24 Q. Okay. So I'm a bit concerned here. Are you aware  
25 of any current construction that's in place on the

1 present proceeding, construction of turbines?

2 A. No. I don't believe anything is there but --

3 Q. I have another question.

4 A. Okay. Go ahead.

5 Q. Are you aware of any permit that has been issued in  
6 these proceedings that would authorize the construction  
7 of a facility?

8 A. No.

9 Q. Okay. So this preconstruction sound survey could  
10 still be accomplished here because those things aren't  
11 done; isn't that true?

12 MR. MIKAL HANSON: Objection. Calls for  
13 speculation on the part of this witness.

14 MS. CREMER: Go ahead.

15 MR. GANJE: Well, this isn't speculation. He's  
16 an expert. He's giving his opinion that -- he has given  
17 his opinions. Now we're looking at this project which is  
18 utterly incomplete, and he's saying it's too late to do  
19 something. That's a fair question under the  
20 circumstances.

21 MS. CREMER: And I would agree, and I was going  
22 to overrule. So please answer, Mr. Hessler.

23 A. Uh-huh. No. A survey could still be done because  
24 nothing has been started on the project. But I'm just  
25 being sensitive to the fact that the Applicant has put in

1 I don't know how many hours and how much money to develop  
2 this project and attaining easements and agreements and  
3 lease agreements. A lot of effort has gone in that would  
4 make it difficult --

5 Q. I understand that, Mr. -- excuse me. I understand  
6 that there's a large effort here. There's a large effort  
7 on everybody's part, Mr. Hessler, but I want to be clear  
8 here. Are you testifying on behalf of the PUC Staff as  
9 an economist?

10 MR. MIKAL HANSON: I'm going to object. I'd ask  
11 Mr. Ganje to let the witness finish his answer to his  
12 question before he interrupts and asks another question  
13 and be directed to do that.

14 MS. CREMER: And, yes, Mr. Hessler. Finish your  
15 answer.

16 A. Well, as I was saying, I believe based on my  
17 experience working with many other developers that it  
18 would take a lot of effort and involve a lot of cost to  
19 radically reconfigure the project at this point to  
20 achieve some significantly lower sound level.

21 You know, my job is not to be here to advocate for  
22 the project or to try to defeat it. I'm trying -- I have  
23 to see things from everyone's perspective, and at this  
24 point in a project like this my understanding is it would  
25 be not particularly feasible to radically alter the

1 project.

2 Q. But I thought you also acknowledged in your  
3 testimony that you're not here to advocate for the  
4 project and that you're not here as an economic expert;  
5 is that correct?

6 A. No. I'm not an expert on the economics of the  
7 project.

8 Q. Are you advocating for the project here?

9 MR. MIKAL HANSON: Objection. Asked and  
10 answered.

11 A. Not at all.

12 Q. Mr. Hessler, if you would kindly look at page 9 of  
13 your testimony in these proceedings.

14 A. Okay.

15 Q. Mr. Hessler, on I think it would be about line 15 --  
16 strike that.

17 About commencing on line 14 of your testimony. If  
18 you would look at that, please.

19 A. Yes, I see that.

20 Q. Thank you.

21 In your testimony did you state that "Complete  
22 compliance with a strict 40 dBA limit would require the  
23 elimination of a number of units, which I believe would  
24 be disproportionately onerous to the project compared to  
25 an essentially imperceptible decrease in sound level of

1 1 to 2 dBA"?

2 A. That's what it says, yes.

3 Q. That is your testimony; correct?

4 A. Yes.

5 Q. Okay. Please define what you mean by  
6 "disproportionately onerous."

7 A. Well, this question is about should the project be  
8 held to 40 or not. My estimation is that with the  
9 changes that I had recommended it looked like it might be  
10 possible to get all of the nonparticipants down to no  
11 more than about 42, which is still good.

12 But it looked like it would be rather difficult to  
13 go the extra 2 dB and make further improvements to  
14 actually get to 40. It looked like that was going to be  
15 difficult to do.

16 Q. How would that be difficult to do?

17 A. Because probably a number of units would have to be  
18 eliminated from the project.

19 Q. But eliminating a number of units from the  
20 project -- is it your job to determine that eliminating a  
21 number of units from the project would become a  
22 disproportionately onerous task to a developer?

23 A. Well, I'm speaking from the experience of working  
24 for developers and recommending that turbines be removed,  
25 and that is always met with an immediate objection.

1 Q. But in this instance you're not speaking for  
2 developers, are you?

3 A. I'm just speaking from general experience.

4 Q. Well, then but the prospective of the answer you  
5 gave was that you were speaking from developers. I  
6 thought you testified in this matter you're not  
7 representing the developer; correct?

8 A. I'm not representing the developer.

9 MR. MIKAL HANSON: Objection. Argumentative and  
10 asked and answered.

11 MS. CREMER: I would sustain that.

12 Q. Mr. Hessler, in this proceeding would a permit  
13 condition in this current matter of 40 dBA or less at all  
14 nonparticipating residents be overly onerous to the  
15 safety of the public?

16 MR. MIKAL HANSON: You know, I'm going to  
17 object. He's an expert proffered on noise, and he is not  
18 being proffered by the Staff as an expert on safety.

19 MS. CREMER: Yes. I would sustain that  
20 objection.

21 You may respond.

22 MR. GANJE: Mr. Hessler is here because he's an  
23 expert, and he's also a member of the Institution of  
24 Noise Control Engineering.

25 The canon of ethics of noise control engineering



1 requires that Mr. Hessler consider the safety of the  
2 public, the health of the public, and the welfare of the  
3 public in their canon of ethics, which he's testified  
4 that he follows.

5 I mean, that's what these professionals do.  
6 They follow their canon of ethics. So this is a relevant  
7 question, and I ask that it be authorized.

8 MS. CREMER: Mr. Hessler, you may answer.

9 A. Well, whether the project is actually doing 42 or 40  
10 would not have any relevance to health and safety. It  
11 would purely be a matter of slightly less annoyance.  
12 That's how I would phrase it.

13 Q. Well, my question, Mr. Hessler, was would it be  
14 overly onerous to the safety of the public if a 40 dBA or  
15 less permit requirement was placed in this proceeding?

16 A. I don't even think that question makes sense. I  
17 don't even understand it.

18 Q. Well, you testified that making changes in this  
19 project would be overly onerous. So I'm trying to figure  
20 out how it would be overly onerous to the public, to the  
21 safety of the public.

22 Your canon of ethics require you to consider the  
23 safety of the public, you would agree, the health of the  
24 public and the welfare of the public; isn't that true?

25 A. Well, I just said the health and safety would not be

1       impacted whether the project is 40 or 42.

2       Q.    Okay.  Would 40 be better than 42?

3       A.    Yeah.

4       Q.    For the public?

5       A.    I would love to see that.

6       Q.    Would 40 be better than 42 for the health of the  
7       public?

8       A.    Not as a health matter, no.

9       Q.    Okay.  Well, we'll get to that later.

10       Would 40 be acceptable to the welfare of the public  
11       as a permit condition?

12       A.    40 would be a good place to be.  I wish the project  
13       could achieve that.

14       Q.    Okay.  Aside from the economic concerns that you  
15       seemed to have expressed earlier, there's no reason in  
16       your professional opinion, is there, that the project  
17       could not achieve a 40 dBA permit level?

18       MR. MIKAL HANSON:  Objection to the form of that  
19       question.

20       MS. CREMER:  Mr. Ganje, did you have a response?

21       MR. GANJE:  No.  I think that it's a proper  
22       question for cross-examination and respectfully ask that  
23       the Hearing Examiner have the court reporter read it  
24       back.

25       (Reporter reads back the last question.)

1 MR. MIKAL HANSON: It's Mr. Ganje saying that.

2 MS. CREMER: Mr. Hessler, can you answer that  
3 question?

4 THE WITNESS: Sure. Yeah.

5 MS. CREMER: Please do.

6 A. Yeah. Economics aside, almost any project could be  
7 made to yield a sound level of no more than 40, but in  
8 this case I think it would take a significant  
9 restructuring of the project to do that.

10 Q. Do you know the final layout of this project,  
11 Mr. Hessler?

12 A. I just had the latest layout as of about a week ago.

13 Q. Okay. Did you hear the earlier statement of Staff  
14 counsel that there are 48 possible contingent problems  
15 still remaining that are unresolved because of legal  
16 easement type issues?

17 A. Yes, I did.

18 Q. So this project hasn't been laid out in anything  
19 near final form, in your opinion, has it?

20 A. Well, it sounds like there's some restructuring work  
21 to be done, yes.

22 Q. Thank you.

23 Mr. Hessler, I would ask you kindly to turn to  
24 page 3 of the testimony on behalf of the Commission.  
25 That's the Staff exhibit.

1 A. Okay.

2 Q. I would ask you to kindly look at your testimony  
3 starting at about line 11, going on for several lines,  
4 and then I'll ask you hopefully an understandable  
5 question.

6 A. Okay.

7 Q. Have you had a chance to do that?

8 A. Yes, I have.

9 Q. Thank you.

10 Mr. Hessler, was it a failure of the Application in  
11 these proceedings not to perform one or more baseline  
12 sound surveys of the existing conditions within the site  
13 area and then compare the expected project sound levels  
14 at residences to this preexisting sound level under  
15 comparable wind conditions?

16 A. Yes. The project did not do that, and I would have  
17 liked to have seen them do that.

18 Q. I mean, you called it a failing, didn't you?

19 A. I said I would fault the study.

20 Q. Okay. Very good.

21 Mr. Hessler, I would like you to look at lines 12  
22 and 13 again at page 3 of your testimony.

23 A. Okay.

24 Q. Thank you.

25 Do you agree that the Application in these

1 proceedings focuses exclusively on the regulatory  
2 compliance and fails to evaluate or assess the potential  
3 noise impact of the project on the community?

4 A. Yes.

5 Q. Thank you.

6 Mr. Hessler, I ask you to kindly look at page 4 of  
7 your Commission testimony here.

8 A. Okay.

9 Q. Now that's long so I'm going to draw your attention  
10 to lines 5 and 6.

11 A. Okay.

12 Q. Do you agree that a survey and subsequent impact  
13 analysis, while not absolutely essential, would have  
14 demonstrated a concern for the community's welfare and  
15 acceptance of the project?

16 MR. MIKAL HANSON: Again, I'm going to object.  
17 He's going over testimony that has already -- it's asked  
18 and answered in our record.

19 MS. CREMER: Mr. Ganje, do you have a response?

20 MR. GANJE: Well, this one hasn't. This is a  
21 separate piece of his testimony. On page 4 he states  
22 this in a different fashion, in a different importance.

23 It's an important statement where he's talking  
24 about what's missing here. And he says it in different  
25 words so that the Commission will understand. He's

1 providing this testimony for the Commission.

2 I'm trying to help the Commission understand  
3 what his testimony is purporting to provide.

4 MS. CREMER: Mr. Ganje, did you ask these  
5 questions earlier?

6 MR. GANJE: Not from this page.

7 MS. CREMER: Okay. Then I'm going to overrule  
8 the objection, and you can proceed.

9 MR. GANJE: May I respectfully ask that the  
10 Hearing Examiner ask the court reporter to repeat the  
11 question.

12 (Reporter reads back the last question.)

13 A. Yes. Of course. That's what I said.

14 Q. I would direct your attention, please, to page 7 of  
15 your Commission testimony.

16 A. Okay.

17 Q. And on lines 15 through 17 was it your opinion that  
18 an existing sound survey would have demonstrated a desire  
19 to make project noise as unobtrusive and acceptable to  
20 the community as possible?

21 A. Correct.

22 Q. Thank you.

23 Mr. Hessler, I would kindly direct your attention to  
24 another exhibit. This is called Exhibit I2. It's the  
25 2011 NARUC report.

1 (Discussion off the record.)

2 Q. Mr. Hessler, was this exhibit a Report and  
3 Recommendation that you made to the Minnesota Public  
4 Service Commission?

5 A. Yes.

6 Q. I would direct you, please, to your report to the  
7 Minnesota Public Service Commission, which is this  
8 exhibit and page 4 thereof.

9 A. Okay.

10 Q. On page 4 did you delineate 13 points which you  
11 would recommend for the purposes of creating a baseline  
12 field survey of existing environmental sound levels?

13 MR. MIKAL HANSON: Again --

14 A. Yes.

15 MR. MIKAL HANSON: This is Mike Hanson.

16 We'd object. You ask the questions in direct,  
17 will he do that, and if his answers are different than  
18 what is in the Commission report, then you can impeach  
19 him with what he said later.

20 It's a waste of time to go to each of these  
21 exhibits, especially if the witness is going to say the  
22 exact same thing he said before. You're asking an  
23 impeachment question before you ask the direct question  
24 that will make it a lot simpler, especially if he says  
25 the same thing.

1 MS. CREMER: Mr. Ganje, do you have a response?

2 MR. GANJE: I do have a response. Thank you  
3 very much.

4 The report that is the exhibit which I have  
5 referred to here, this 2011 Minnesota Public Service  
6 Commission report, is very important because it discusses  
7 his recommendations with regard to sound levels and sound  
8 surveys, and he elaborates as regards what he recommends.

9 And those surveys didn't exist -- or do not  
10 exist at this point in time in this proceeding, and the  
11 sound levels that he's recommending in this proceeding  
12 are different than the sound levels he recommended in the  
13 exhibit I'm now referring him to. This is proper grounds  
14 for impeachment and cross-examination.

15 MS. CREMER: And I would agree with you there,  
16 but I also think Mr. Hanson has a point that I think you  
17 have your questions in reverse. If you could -- see if  
18 he disagrees with what he said before first, and then use  
19 that document to impeach him.

20 Does that help?

21 MR. GANJE: I can certainly reframe the  
22 question.

23 MS. CREMER: Thank you.

24 Q. Mr. Hessler, do you disagree with the  
25 recommendations you made to the Minnesota Public Service



1 Commission regarding the Exhibit at I-2 regarding a  
2 baseline field survey of existing environmental sound  
3 levels that should be used in this case?

4 A. No. I don't disagree with anything in the NARUC  
5 study.

6 Q. You were the principal author of the study; correct?

7 A. I was the only author of the study.

8 Q. So you don't disagree with the recommendation on  
9 page 12 of the NARUC study in which you said that any new  
10 project should attempt to maintain a mean sound level of  
11 40 dBA or less at all residents as an ideal design goal?

12 A. That's correct. Importantly as an ideal design  
13 goal.

14 Q. Right.

15 Could we please turn to page 22 of that exhibit. I  
16 refer to Section 4.2 of page 22.

17 A. Okay.

18 Q. Wasn't it your recommendation at the end of  
19 Section 4.2 regarding preconstruction sound surveys that  
20 you recommended them where there is a desire to carry out  
21 a complete and thorough assessment?

22 A. Yes. That's exactly right.

23 Q. Thank you.

24 Have you yourself in your professional career ever  
25 done a sound study for a project and included a

1 preoperation baseline study with your modeling report?

2 A. Many times. I would say the majority of projects  
3 involved at least one study, sometimes two.

4 Q. And you used those as a baseline for your modeling  
5 report in those instances; correct?

6 A. They're used as in coming up with a design goal  
7 that's appropriate for that particular study based on the  
8 actual preexisting sound levels there.

9 Q. Thank you.

10 Mr. Hessler, do you agree that the preconstruction  
11 survey Intervenor requested in this proceeding would  
12 provide the existing sound levels needed to determine  
13 whether this project complies with the recommendations  
14 that you published in the NARUC report?

15 MR. MURPHY: I have an objection. I have no  
16 idea what document he's talking about that the  
17 Intervenor has proffered in this proceeding. So I  
18 would like him to point us in that direction.

19 MS. CREMER: Could you hear that, Mr. Ganje?

20 MR. GANJE: Indeed.

21 Q. Mr. Hessler, in your testimony that you -- written  
22 testimony that you filed with the Commission, didn't you  
23 discuss and review the Intervenor's recommendations in  
24 this case?

25 A. Yes, I did.

1 Q. And so my question is the recommendation of the  
2 Intervenors regarding a preconstruction survey is one  
3 they've put on the table. Do you agree that that should  
4 have been done here?

5 A. I would --

6 MR. MIKAL HANSON: Wait, Mr. Hessler. I'm going  
7 to object. Again, I think it's been asked and answered.  
8 We're going back over testimony that's already been  
9 presented to the Commission.

10 MS. CREMER: And I would sustain that.

11 Q. Mr. Hessler, would a preconstruction sound survey  
12 give more accurate data for an Applicant to follow in  
13 constructing and placing turbines in the project area at  
14 dBA levels that may be set by the PUC?

15 A. The only purpose of a survey is to determine if the  
16 project should be potentially designed to a lower sound  
17 level than the regulatory limit.

18 Q. Does the lack of such a preconstruction sound survey  
19 deny the Commission information that the Commission  
20 should have access to regarding the impact level on the  
21 property in the project area?

22 MR. MIKAL HANSON: I'm going to object. That  
23 calls for a legal conclusion on the part of this witness.

24 MS. CREMER: Do you have a response, Mr. Ganje?

25 MR. GANJE: I do. This witness has been hired

1 because he's an expert. This witness is advising the  
2 Commission on the aspects of this project that deal with  
3 noise and sound.

4 The question is relevant and material. The  
5 question simply asks him whether a preconstruction sound  
6 survey or the absence of one denies information the PUC  
7 should have in order to assess the impact of noise  
8 levels.

9 MS. CREMER: Mr. Hessler, can you answer -- or  
10 would you answer that question, please. I am going to  
11 overrule the objection.

12 A. Okay. All I'm saying in my testimony there is that  
13 it would have been better practice on their part to do a  
14 survey and determine if some lower design goal were  
15 appropriate.

16 Q. But wouldn't it assist the PUC in making a decision  
17 in this case?

18 A. Yes. I would have rather had them do a survey.

19 Q. Okay. Thank you.

20 Mr. Hessler, you said that one postconstruction test  
21 should be completed carefully in your testimony; is that  
22 right?

23 A. I said that a postconstruction verification test  
24 should be done if there are complaints or some reason to  
25 believe that the project is louder than expected and --

1     you know, under those circumstances. And only needs to  
2     be done once, to answer your question.

3     Q. I would kindly refer you to page 10 of your written  
4     testimony for the Commission.

5     A. Okay.

6     Q. On lines 5 through 7 did you state that "One test  
7     carefully done under appropriate wind conditions is  
8     sufficient to determine if the project is compliant or  
9     not"?

10    A. Yes.

11    Q. You didn't put any conditions on that recommendation  
12    in that statement, did you?

13    A. I'm just answering the proposal that the project be  
14    tested on an ongoing basis, and I do not agree that  
15    that's necessary.

16    Q. Right. But you did state in your testimony, didn't  
17    you, that one test should be carefully done?  
18    Postconstruction?

19    A. Not as a -- just an automatic requirement, but in  
20    response to complaints or some reason to believe it's out  
21    of compliance.

22    Q. But when I look at your testimony on page 7 those  
23    conditions about out of compliance aren't put on that.  
24    You just simply recommended that one test should be done,  
25    didn't you?

1 MR. MIKAL HANSON: Objection.

2 A. No. No. I'm answering the -- there were four  
3 proposed conditions that the Intervenors put out there,  
4 and I'm going down in the testimony there and answering  
5 each one of those suggestions.

6 And one of them was to do testing on an ongoing  
7 basis. I don't agree with that.

8 Q. But I'm not asking you about an ongoing basis. My  
9 question is do you recommend to this Commission that  
10 there should be at least one postconstruction test done?

11 MR. MIKAL HANSON: Objection. Asked and  
12 answered.

13 A. Haven't I answered that already?

14 MS. CREMER: Yes. I'm going to sustain that.  
15 That's been asked and answered.

16 Q. Mr. Hessler, do you believe that a postconstruction  
17 test should be done by an independent testing company and  
18 not the developer?

19 A. If a test is done, it could be done by a completely  
20 independent party, or it could be done by a consultant  
21 hired by the developer to do the test. I've done many  
22 tests on behalf of the developer, and I can tell you I  
23 report the honest results. There's no bias in there.

24 Q. Thank you.

25 Do you agree that the Applicant should furnish SCADA

1 data -- that is S-C-A-D-A data -- during any testing to  
2 verify turbines are operating near full power at the time  
3 of testing?

4 A. Yes. That's very important.

5 Q. Thank you.

6 Mr. Hessler, are you recommending to the Commission  
7 that they consider as any condition of the permit here  
8 that the compliance measurement for postconstruction  
9 follow an A-N-S-I test protocol?

10 A. Any survey should generally try to adhere to ANSI  
11 standards, but the trouble is there is no ANSI standard  
12 for doing a test of a wind turbine facility. Only for  
13 testing other more conventional sources like fossil fuel  
14 plants.

15 Q. So you do not believe that A-N-S-I provides a  
16 testing protocol for the situation I've asked for?

17 A. No. That's correct. There is no specific test  
18 procedure for wind turbines. No. They're completely  
19 unique compared to all other kinds of noise sources  
20 basically.

21 Q. Mr. Hessler, I would kindly ask you please to look  
22 at Exhibit I5.

23 A. Okay. I've got that.

24 Q. Thank you very much.

25 I would kindly ask that you look at page 96. On

1 page 96 did you make a recommendation regarding dBA  
2 levels following the World Health Organization standards  
3 of 2009?

4 A. This paper is about -- kind of a literature survey  
5 about all existing standards and guidelines, and we do  
6 mention the WHO 2009 recommendations. They've been  
7 superseded, by the way. 2018.

8 Q. But isn't the design recommendation that you refer  
9 to in your article 40 dBA as an ideal design goal?

10 MR. MIKAL HANSON: Objection. Asked and  
11 answered. We've already got that Direct Testimony.

12 MS. CREMER: I'm going to overrule, but,  
13 Mr. Ganje, I believe it has been established on the  
14 40 dBA.

15 MR. GANJE: Not regarding this --

16 MS. CREMER: But not regarding this particular  
17 article. I would agree. So please answer.

18 A. Yeah. The whole conclusion of this article is the  
19 recommendation of 40 as an ideal design goal and 45 as a  
20 reasonable regulatory limit.

21 Q. Well, do you agree that as an author on page 96 you  
22 said that the level of 40 is expressed as a design target  
23 to protect the public?

24 A. Yeah. That is what the WHO said in 2009. They have  
25 since changed their position on that.



1 Q. In this exhibit, which is I5, I would ask you to  
2 turn your attention to page 100.

3 A. Okay.

4 Q. I would ask you to look at the last full paragraph  
5 on page 100. In that article I understand you were  
6 citing studies and analysis of wind turbine situations  
7 that have been done in prior literature; is that correct?

8 A. That's correct.

9 Q. And does your article state that, "These studies  
10 generally predict an annoyance rate ranging from 10 to  
11 45 percent or more for wind project sound levels in the  
12 40 to 45 dBA range"?

13 A. Yes. That's what it says. Those are early studies  
14 done way back when turbines were a new thing.

15 Q. Have you ever written an article that discredited  
16 that statement that you've just read -- that I just read  
17 to you?

18 A. I never really agreed with the methodology of those  
19 studies, and I talked to the author, as a matter of fact,  
20 and she doesn't agree with my methodology so we're kind  
21 of in a Mexican standoff there. But I think her method  
22 exaggerates the potential for complaints.

23 Q. I see. But that's what you wrote in your article in  
24 2011; is that correct?

25 A. Yeah. As part of a literature review and discussion

1 of all available knowledge at that time on what limits  
2 ought to be placed on wind turbine projects.

3 Q. But isn't it your testimony that you're still  
4 recommending an ideal design goal of 40 dBA?

5 A. Yeah. I think we've established that today, yes.

6 Q. Okay. Mr. Hessler, I would kindly ask you to look  
7 at Exhibit I3.

8 A. Okay.

9 Q. If you have that in front of you.

10 A. Well, hold on. Let me just get that.

11 Q. Sure.

12 A. All right. My buddy Paul Schomer.

13 Q. Well, I can't speak to the friendship that you have,  
14 but it looks like you have the article in front of you.

15 A. Yeah.

16 Q. Okay. Now did you collaborate with a colleague by  
17 the name of Dr. Paul Schomer and others on a Wisconsin  
18 Public Service Commission report in 2012?

19 A. You're talking about the Shirley Wind Project?

20 Q. Yes, sir.

21 A. Yes.

22 Q. Do you consider Dr. Schomer an authority on the  
23 matter of the human effects of wind turbine noise?

24 A. Yeah. He's an authority.

25 Q. Okay. I appreciate your attitude.

1 I would ask you now to look at page 12 of the  
2 article. Now this is the same Dr. Schomer who worked  
3 with you on the Shirley Wind Farm report; is that  
4 correct?

5 A. That's correct, yeah.

6 Q. Okay. And on page 12 of this exhibit does he  
7 recommend that there be an A-weighted Leq turbine noise  
8 criterion in or around the range of 36 to 38 dBA?

9 MR. MIKAL HANSON: I'm going to object. Again,  
10 the form of the question. He's putting the impeachment  
11 in front of it, and this isn't really even impeachment.  
12 It's not his report, and I'm going to object to the form  
13 of the question on this other man's study.

14 MS. CREMER: Do you have a response, Mr. Ganje?

15 MR. GANJE: Well, I think it's a legitimate --  
16 I'm going over the Direct Testimony. He has given his  
17 opinion on the correct dBA levels.

18 This gentleman in this article who he's worked  
19 with before has a different opinion than him, and all I'm  
20 asking him to do is recognize, number one, that this  
21 gentleman is considered an authority, which he's  
22 recognized, and, number two, that this gentleman has a  
23 different recommended range for dBA.

24 MS. CREMER: And then to me that would be the  
25 question you want to ask. And so if asked in that form,

1 go forward, please.

2 MR. GANJE: I would like to ask the question in  
3 that form.

4 MR. MIKAL HANSON: I'm going to object. This  
5 witness has not identified the author of this article as  
6 an expert.

7 MR. GANJE: Yes, he has.

8 MR. MIKAL HANSON: He says he knows him and he  
9 worked with him and he did a study with him. He hasn't  
10 identified him --

11 MR. GANJE: Counsel, excuse me. Madam Examiner,  
12 I asked this witness do you consider Dr. Schomer an  
13 authority on the matter of the human effect of wind  
14 turbine noise, and he gave a rather sarcastic  
15 affirmative. Yes.

16 MS. CREMER: I would agree. So let's move on.  
17 And, Mr. Hessler --

18 MR. MURPHY: Unfortunately, I have an objection  
19 then.

20 MS. CREMER: Okay. Crowned Ridge, what's your  
21 objection?

22 MR. MURPHY: Looking at the paper, I don't see  
23 how a foundation is laid about these gentlemen. I don't  
24 know the resume. And I don't understand the question  
25 with regard to are they experts on a very broad, general

1 human effects. Are these Ph.D.s, or are they M.D.s? And  
2 we're talking to an engineer asking an engineer about an  
3 expertise that's totally outside his field of expertise.

4 So if the foundation could be laid, I'm fine.  
5 But I am not seeing that here. So I'm objecting to a  
6 line of questioning that essentially is asking an  
7 engineer to opine about a study that presumably was done  
8 by a Ph.D. or an M.D.

9 MR. GANJE: Madam Examiner, I've laid the  
10 foundation. And, in fact, this witness, Mr. Hessler, is  
11 being brought before the Commission because he is an  
12 expert on the human effects of wind turbine noise because  
13 he recommends higher noise, less noise, certain dBAs,  
14 et cetera. He is an expert.

15 I asked him whether his colleague who he's  
16 worked with before on articles or reports is an expert,  
17 and he's acknowledged that. The foundation is there.

18 MS. CREMER: I think that you could ask  
19 Mr. Hessler if he agrees with the conclusions reached in  
20 this article. I'm having a real hard time. Your cross  
21 seems like friendly cross at some times rather than  
22 impeachment. We don't allow friendly cross so I really  
23 struggle sometimes with your questions.

24 If you could make sure that these are  
25 cross-examination questions, I'd appreciate that.

1 MR. GANJE: Thank you. If you would ask the  
2 court reporter to read the question.

3 (Reporter reads back the last question.)

4 MS. CREMER: Mr. Hessler, you can answer that  
5 question.

6 MR. HESSLER: Okay. All right. Waiting for  
7 confirmation of that.

8 A. Yeah. That's what Paul's conclusion is here. 36 to  
9 38 is his -- is his ideal design goal. A little bit  
10 lower than ours.

11 I think once you get below 40 it becomes very  
12 impractical to achieve levels in the 30s. So I  
13 wouldn't -- I don't really agree with that. I think it's  
14 a bit extreme.

15 Q. I see. Mr. Hessler, I ask you kindly if you would  
16 look at Exhibit I4.

17 A. Okay. I have that.

18 Q. Mr. Hessler, this is an article done in 2017, and  
19 the authors of the article on I4 are George Hessler,  
20 Jeff Leventhall, Paul Schomer, and Bruce Walker.

21 Do you recognize those names?

22 A. Yes. I know all of those people.

23 Q. Thank you.

24 And with regard to that -- as a matter of fact,  
25 George Hessler is your father; correct?

1 A. That's correct.

2 Q. So you're familiar with this article probably much  
3 more than anybody here. Would that be a fair statement?

4 A. Probably so. It sounds like you've been pouring  
5 over it, though.

6 Q. Well, Mr. Hessler, I'm not here as an expert, but I  
7 do have a question.

8 Do you agree with the author's conclusion in that  
9 article in which the author states, "The authors have  
10 generally found that wind turbine farms designed to a  
11 level of 40 dBA or a bit lower at nonparticipating  
12 residential receptors have an acceptable community  
13 response"?

14 A. Yes. I agree with that.

15 Q. Okay. Thank you.

16 Mr. Hessler, I would kindly draw your attention to  
17 Exhibit I1.

18 MS. CREMER: Mr. Ganje, this is Karen Cremer.  
19 Do you know how much longer you have? We're debating a  
20 break here.

21 MR. GANJE: I am almost done.

22 MS. CREMER: Okay. Thank you.

23 A. Okay. I've got that study. Thank you very much.

24 Q. Mr. Hessler, in 2012 were you hired to provide a  
25 review of a proposed wind farm called the Highlands

1 Project to be located in St. Croix County in Wisconsin?

2 A. Yes. I was -- we were hired by an entity called  
3 Clean Wisconsin to look into that project, yes.

4 Q. And Clean Wisconsin was to in turn give the report  
5 to the Wisconsin Public Service Commission; is that  
6 correct?

7 A. Right.

8 Q. Thank you very much.

9 And isn't it true that on page 7 of that report you  
10 recommended that the project under consideration -- well,  
11 strike that. Let me say it over. Let me say it over.

12 Did you indicate on page 7 of that report that a  
13 design goal of 40 dBA long-term average should be  
14 recommended at least for all nonparticipating residences?

15 MR. MIKAL HANSON: Again, we're going to object.  
16 This has been covered, and he's asking the question --  
17 again, he's impeaching the question asked before the  
18 direct question.

19 MS. CREMER: Would you like to restate,  
20 Mr. Ganje?

21 MR. GANJE: Well, yes.

22 Q. Mr. Hessler, for the Highlands Project when you gave  
23 a report for the Wisconsin Public Service Commission did  
24 you recommend a nonparticipating dBA level of 40 dBA?

25 A. Yeah. That recommendation is just consistent with



1     that Noise Control Engineering Journal article that we  
2     previously talked about.

3     Q.    And this recommendation was made by you in 2012?

4     A.    Yes.

5     Q.    And then on page 8 of that article isn't it true  
6     that you recommended the approval of the Highland  
7     Project, "with the recommendation that the long-term  
8     average two-week sample design goal of sound emissions be  
9     set at all nonparticipating residences at 39.5 dBA or  
10    less"?

11           I'm referring to page 8.  I apologize.

12    A.    Yeah.  I see.  I'm just trying to reconstruct the  
13    thinking here from --

14    Q.    Well, I'm asking you what you wrote in the report,  
15    not what your thinking is now.

16    A.    No.  I'm just trying to read this for a second here,  
17    if you don't mind.

18    Q.    No.  I don't mind.  I apologize.

19    A.    Yeah.  I think the conclusion in this paper was the  
20    consensus of a committee where some average level came  
21    out of the work, and that's where this 39.5 comes from.  
22    Yeah.  We did say that that's what we recommended for  
23    Highland.  That's not different in any meaningful way  
24    from the 40 we've been talking about.

25    Q.    But that was more than just a consensus opinion.  In

1 fact, on page 8 doesn't it say, "Based on the above,  
2 Hessler & Associates recommends 39.5 dBA or less"? Isn't  
3 that true?

4 A. Yeah. That's what it says, yes.

5 MR. GANJE: No further questions.

6 MS. CREMER: Thank you.

7 Commissioners, do you want to take a break now  
8 and then ask your questions?

9 (Discussion off the record.)

10 MS. CREMER: We're going to do 10 minutes  
11 because we're on a deadline.

12 Thank you.

13 (A short recess is taken.)

14 MS. CREMER: I'm going to call us back into  
15 session.

16 Commissioner Fiegen, are you on the line?

17 COMMISSIONER FIEGEN: Commissioner Fiegen is  
18 present.

19 MS. CREMER: And, Mr. Hessler, are you on the  
20 phone?

21 MR. HESSLER: I'm still here.

22 MS. CREMER: All right. And, Mr. Ganje, are you  
23 on the phone?

24 MR. GANJE: Yes.

25 MS. CREMER: All right. I believe we were at

1 Commission questions, and we will begin with Chairman  
2 Hanson.

3 CHAIRMAN HANSON: Thank you. Good afternoon,  
4 Mr. Hessler. I just have a couple of questions.

5 Do you know what the -- I'll call it the ambient  
6 noise level around a typical farmstead is at night? Have  
7 you ever measured that? I'm assuming it's pretty quiet.

8 THE WITNESS: Well, yes and no.

9 The ambient level that's really relevant here is  
10 the sound level when the wind is blowing such that the  
11 turbines would be operating at mid to high power output  
12 levels.

13 CHAIRMAN HANSON: Well, excuse me for  
14 interrupting you. I should have prefaced my question  
15 with when there are no wind turbines in the vicinity.

16 THE WITNESS: Well, even so, before any project  
17 is there during moderately windy conditions the  
18 background level would be typically around 40, 43,  
19 something like that. Under calm conditions it might be  
20 20 and utter silence. The winds make the huge difference  
21 on the sound level.

22 CHAIRMAN HANSON: So you're saying that without  
23 any wind turbines at all when the wind is blowing -- the  
24 typical area around a farmstead I am assuming there has  
25 to be a grove of trees or something, or is the wind

1 hitting the homestead and the barn and things of this  
2 nature? You're saying it's between 40 and 43?

3 THE WITNESS: Roughly. And it even goes over 50  
4 when it's particularly windy. Yeah. It's surprising.  
5 That's why it can't be neglected during a compliance  
6 survey because it's equal to, maybe even more than, the  
7 project level.

8 CHAIRMAN HANSON: So the noise limits would  
9 occasionally be exceeded regardless of --

10 THE WITNESS: That's correct. You know, right  
11 now the levels are about 45 out at this site when it's  
12 windy.

13 CHAIRMAN HANSON: Okay. Thank you. That's the  
14 only questions I have.

15 MS. CREMER: Commissioner Nelson.

16 COMMISSIONER NELSON: Mr. Hessler, in Staff's  
17 Exhibits 1A that we've looked at you've got the table  
18 that shows potential reductions if a number of the  
19 turbines were moved or relocated. But obviously if they  
20 then use some or all of the alternative turbine  
21 locations, would that not then increase the sound levels  
22 at nonparticipants -- at differing nonparticipants?

23 THE WITNESS: Not really. Most of the alternate  
24 locations are up in the northeastern part of the site  
25 area, and it's predominantly participants up there. Very

1     few nonparticipants. So if some of these turbines from  
2     the main part of the project were extracted and exiled to  
3     this northern northeastern corner, you would see  
4     improvements in the main part of the project area and no  
5     real degradation anywhere else as far as nonparticipant  
6     levels go.

7             COMMISSIONER NELSON: Okay. Thank you. I think  
8     the only other question I've got, you talked about the  
9     fact that you've done a number of postconstruction  
10    testings.

11            Can you give us maybe just a generalization of  
12    when you do those tests how closely they mirror what was  
13    modeled as the proposed sound levels? In other words,  
14    how accurate were the models?

15            THE WITNESS: It turns out that there's good  
16    agreement between the model prediction using the  
17    methodology in this study, for instance, and what you  
18    actually find.

19            Now what that agreement is is the average  
20    measured level at some receptor point, somebody's house,  
21    equals the model prediction. And what that means is that  
22    there are going to be times when the level was higher  
23    than that level and times when it's going to be lower  
24    than that level, but the average matches very well with  
25    the model prediction.

1           Turbine levels are not constant, particularly  
2 thousands of feet away. They vary with the atmospheric  
3 conditions on a regular basis. But the agreement is  
4 between the long-term average and what you see on the  
5 sound contour plots.

6           COMMISSIONER NELSON: Thank you. Very helpful.  
7 That's all the questions I've got.

8           MS. CREMER: Commissioner Fiegen.

9           COMMISSIONER FIEGEN: Commissioner Fiegen here.  
10 I think most of mine have been answered. I'm just going  
11 to ask a couple clarifying questions, Mr. Hessler, since  
12 you're on-line today.

13           You know, I go back to that question that you  
14 were asked about that -- kind of the barn door is open or  
15 it's hard to shut and it's that 5 dBA increase above the  
16 baseline background level.

17           Do you think that is still a possible condition  
18 on this permit?

19           THE WITNESS: Well, a survey would be required  
20 to find out what the baseline sound level is.

21           Let me just start over. The survey would  
22 determine what the design background level is as a  
23 function of wind speed. And then the five would be added  
24 to that number.

25           That may result in a design target that's below

1     45. It may not. You may find that the background level,  
2     a fair representation of it, is that it's 40, and in  
3     which case 45 would be the design goal coincident with  
4     the regulatory limit.

5             You don't know what the answer is. That's why  
6     you'd have to do a field survey to determine it.

7             COMMISSIONER FIEGEN: So I'm not for sure if I  
8     understood your response. So we could put a condition on  
9     like that, but the survey would have to be done so that  
10    would take a lot of time? Is that what you're kind of  
11    trying to say to me?

12            THE WITNESS: Well, we'd need to know what the  
13    answer is from a survey to know what the 5 increase  
14    means. You have to have a starting point to add that  
15    value to.

16            COMMISSIONER FIEGEN: Right. So we would have  
17    to -- you know, if for some reason we would put a  
18    condition on like this -- and I'm not saying I would or  
19    would not but certainly you talked about the barn door is  
20    out. But couldn't we require them to go do a survey, a  
21    baseline survey before construction?

22            THE WITNESS: Certainly. I'm not opposed to a  
23    survey. It's just that once the project is fairly  
24    advanced it's difficult to put the survey to any use  
25    because all the turbine locations are kind of set and

1     it's hard to change them. That's my only reasoning  
2     there.

3                 But no. I would always recommend a survey.

4                 COMMISSIONER FIEGEN: Okay. Thank you.

5                 The other question I have, and it may be a  
6     question that I may ask you next week after I understand  
7     the project better so you might not be able to answer it  
8     today, but this project is certainly close to other  
9     projects. So have you looked at that combined sound  
10    noise or -- when you looked at their study have you kind  
11    of looked at it and said, oh, but there's another wind  
12    project that may be permitted or has been permitted that  
13    may impact what they have done so far?

14                THE WITNESS: Well, yeah. That came up some  
15    time ago, and I believe that the model was rerun to  
16    include the neighboring projects. Or proposed future  
17    projects and that the new sound levels, the ones that  
18    I've been working with, were taken into account with the  
19    sound from these other neighboring facilities.

20                COMMISSIONER FIEGEN: Thank you.

21                I don't think I have anymore questions for you  
22    today. Oh, one more.

23                As you know, the Commission certainly looks at  
24    safety and health, and you have reiterated that several  
25    times. You know, welfare is certainly another one. And



1     you talked a tiny bit about that once in awhile. So when  
2     we look at a permit we'll certainly look at welfare too,  
3     and that gives us a lot of flexibility with trying to  
4     figure out sound levels. And annoyance, of course, is  
5     part of that.

6             And so is there any other advice you can give  
7     us? And I think it's all in your testimony on welfare  
8     already. Is there anything that you would like to  
9     clarify on that? Because it will be harder to reach you  
10    next week.

11            THE WITNESS: Yeah. I hope my phone is going to  
12    work from there. I don't know.

13            Yeah. As I think I've said a few hours ago, I  
14    don't expect any health and safety impact from this  
15    project. There's a tiny possibility that low frequency  
16    noise could emerge as an issue. I don't see any reason  
17    why that would be, but I don't think it's going to  
18    happen. That would be the only intentional health  
19    impact.

20            The rest of it is purely a matter of annoyance  
21    basically. I guess that would fall under the welfare  
22    category.

23            COMMISSIONER FIEGEN: Okay. Thank you. That's  
24    all my questions, Ms. Cremer.

25            MS. CREMER: Thank you.

1           Staff, do you have any redirect?

2           MR. MIKAL HANSON: Thank you.

3           This is Mike Hanson. Commissioner Fiegen, in  
4 regard to that question you asked about how this project  
5 compares with the other projects that are out there, I  
6 think Staff, Mr. Kearney, asked that question in a Data  
7 Request and got them to run their noise levels and their  
8 flicker studies again with that added request, and my  
9 understanding is they now are moving two turbines. They  
10 know they are because of the combination of either noise  
11 or flicker.

12           So that was something done that the Staff  
13 caught and -- do you have any questions about that or --

14           COMMISSIONER FIEGEN: Thank you.

15                               REDIRECT EXAMINATION

16           BY MR. MIKAL HANSON:

17           Q. My questions of redirect, I have three areas.

18           Mr. Hessler, the first question is pretty  
19 commonsensic [sic], but you were asked about there may be  
20 48 turbines that because of lease problems and landowner  
21 problems may not be part of the project. But my question  
22 is let's say because of those problems the 48 are taken  
23 out of the project. Can that in any way whatsoever  
24 affect noise studies or noise, the removal of 48  
25 turbines?

1 A. Oh, yeah. Yeah. That would probably greatly  
2 improve the noise situation.

3 Q. Right. Okay. Yeah. I was going to say it can't  
4 adversely impact nonparticipating landowners or residents  
5 by the removal of those.

6 A. No. Not at all.

7 Q. The concern would be you take those 48 out of where  
8 they're located and place them at other locations; is  
9 that -- that what you -- would concern you and you're  
10 worried about or thinking about?

11 A. Well, if they're going to be moved to some other  
12 place, then we're starting all over again basically, and  
13 we'd have to look at what the new situation is.

14 Q. But there are a significant number of alternative  
15 wind turbine sites up to the north in that area that you  
16 described as not having too many nonparticipants; is that  
17 correct?

18 A. That's correct. I think it might be on the order of  
19 a dozen. But not 48, though.

20 Q. Yeah. And you were asked some questions about that  
21 by Mr. Murphy. I mean, if they're proposed sites, people  
22 have had notice. They are on the maps. They have all  
23 the kind of compliance, I guess, that is required before  
24 the Commission issues a permit.

25 Does that make sense? Do you understand my

1 question?

2 A. I'm not sure. All the alternative turbines are part  
3 of the sound model whether they're going to be built or  
4 not.

5 Q. Right.

6 A. Yeah. Okay.

7 Q. And have gone through what would be the notice, the  
8 requirements. They're listed on there. If you put a  
9 wind turbine on there, everything that's required has  
10 already been done, as far as you understand, in regard to  
11 noise?

12 A. I think I agree with that, yeah.

13 Q. All right.

14 Now do you have Exhibit 1A? I'm still -- I'm old,  
15 and I still have paper copies. But if you have it on  
16 your computer, the 1A, I would ask you to go to that.  
17 Staff 1A.

18 A. Okay. Is it A1?

19 Q. It's -- yeah. A1. It's your diagram where we  
20 estimated the sound reductions for the elimination of the  
21 16 turbines.

22 A. Oh. Okay. The exhibit attached to my testimony?

23 Q. Yeah. Yes.

24 A. Oh, okay. Yeah. Yeah. Okay. I think of that as  
25 DMH-2. Yeah. In fact, I have a hardcopy in front of

1 me.

2 Q. And it's not the one where you've crossed out on the  
3 map. It's the one that has the column nonparticipating  
4 person identified, primary turbine proposed for  
5 relocation.

6 A. Oh, okay. Oh, okay. S1-A. Yeah. The one with the  
7 table?

8 Q. Yes.

9 A. Okay. All right. Sorry. Okay.

10 Q. Okay. And if you had a hardcopy like me but --  
11 let's --

12 If Crowned Ridge -- if we go to the second column --  
13 is willing to take away turbine CR 16, put a line through  
14 it, CR 19, CR 23, CR 60, which is in the -- in that group  
15 of four?

16 A. Yeah. I see it.

17 Q. And then CR 67 and CR 68. If you put a line through  
18 those, do you agree with me that that would have a  
19 significant effect on the noise level of nonparticipating  
20 individuals?

21 A. Yeah. There would be several houses that would see  
22 a pretty big drop.

23 Q. If you remember, you were asked about the -- when  
24 they reran the sound study, Mr. Murphy asked you about  
25 have you seen the report where they reran the sound study

1 without those 16 turbines?

2 A. Right. Uh-huh.

3 Q. And he asked you about those four ones that were  
4 over 3.

5 A. Right.

6 Q. I have both those exhibits in my hand. I don't know  
7 if you're able to do that on your computer. But if you  
8 look at the person who lives in house 52, if you look in  
9 your --

10 A. Yes.

11 Q. All right. You predict that they're going to have a  
12 sound level reduction of 5, and they say 4.2, that's  
13 going to be significant, is it not?

14 A. That's correct. Yeah.

15 Q. And if you look at the resident identified as  
16 CR1C31, do you see that on your table, nonparticipant?

17 A. Yes. Right.

18 Q. Okay. Their level of reduction would be -- you  
19 predict 3.7, but when they ran the -- or I'm sorry. Your  
20 prediction was 4 but they ran the level and it was 3.7.

21 A. Okay.

22 Q. Again, that would be significant; correct?

23 A. Yes. Yes.

24 Q. And then 34, they ran it and got an actual reduction  
25 of 5.6, and you had predicted only 3.

1 A. Well, that's because -- well, they're only taking  
2 out one turbine -- well, I'm not sure what the  
3 correlation is there but --

4 Q. But anyway, those were the -- it's kind of a  
5 combination of the very highest levels of nonparticipants  
6 and the significant amount of noise difference. Do you  
7 agree with me?

8 A. Okay. Right.

9 Q. Would you also, if that happened, say that that  
10 would be a pretty fair effort on the part of the appliers  
11 to -- or Crowned Ridge to try to at least reduce noise  
12 levels on behalf of this project?

13 A. Right. Yeah. I'm most concerned about the houses,  
14 the nonparticipants, that are up close to 45 or at 45.

15 Q. And all of those are nonparticipants that we talked  
16 about, are they not?

17 A. Yeah. That's correct. Uh-huh.

18 MR. MIKAL HANSON: Those are the only questions  
19 I have.

20 MS. CREMER: Thank you. That would take us to  
21 recross but only as to Commission questions. Or  
22 redirect. And Crowned Ridge is saying no.

23 Intervenors?

24 MR. GANJE: No.

25 MS. CREMER: Thank you. Did that -- anything

1 from the Commission? Did those questions -- no?

2 Well, thank you, Mr. Hessler, for your time.  
3 Have fun in Portugal. No pretending your phone doesn't  
4 work. You may step down. Thank you.

5 (The witness is excused.)

6 MS. CREMER: Is there any other business? And  
7 Crowned Ridge is indicating there is.

8 MR. MURPHY: I want to make sure I'm clear with  
9 our witnesses next week. When we bring them to the stand  
10 are we to assume that Hessler did not testify out of  
11 order for the purposes of the testimony he gave today and  
12 we will wait until our rebuttal case to do that?

13 Again, I'm amenable either way. But, for  
14 example, I could ask a witness did you hear Mr. Hessler  
15 say X? Do you agree with X?

16 MS. CREMER: That would be how normally we would  
17 do it. So typically what we do is when you put your  
18 witness on it's all of their testimony, their direct,  
19 their rebuttal, their surrebuttal. And they should  
20 summarize basically.

21 You don't need to do the Q and A. They can just  
22 summarize in about five minutes. We've all read it. And  
23 we just go right to cross-examination.

24 MR. MURPHY: And just to -- maybe I wasn't  
25 clear.



1           Mr. Hessler would normally testify after that so  
2 I want to know whether we have leeway to address anything  
3 he said today.

4           MS. CREMER: Yes. Yes. That would be your  
5 opportunity to do that.

6           MR. MURPHY: Thank you.

7           MS. CREMER: Seeing nothing else, we are in  
8 recess until 1 o'clock on Tuesday, June 11. Thank you  
9 very much, and we'll see you then.

10                   (The proceeding is in recess.)

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1 STATE OF SOUTH DAKOTA)

2 :SS

CERTIFICATE

3 COUNTY OF SULLY )

4

5 I, CHERI MCCOMSEY WITTLER, a Registered  
6 Professional Reporter, Certified Realtime Reporter and  
7 Notary Public in and for the State of South Dakota:

8 DO HEREBY CERTIFY that as the duly-appointed  
9 shorthand reporter, I took in shorthand the proceedings  
10 had in the above-entitled matter on the 6th day of  
11 June, 2019, and that the attached is a true and correct  
12 transcription of the proceedings so taken.

13 Dated at Onida, South Dakota this 29th day of  
14 June, 2019.

15

16

17

18 /s/ Cheri McComsey Wittler  
19 Cheri McComsey Wittler,  
20 Notary Public and  
21 Registered Professional Reporter  
22 Certified Realtime Reporter  
23  
24  
25

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