

South Dakota Public Utilities Commission

EL18-003- In the Matter of the Application by Dakota Range I, LLC and Dakota Range II, LLC for a Permit of a Wind Energy Facility in Grant County and Codington County, South Dakota, for the Dakota Range Wind Project- Evidentiary Hearing

June 12, 2018, 1:00 p.m.

Room 413, State Capitol Building, Pierre, SD

Please Print Legibly

Person	Representing/Company/Agency	Address/City/State
Mark A Robert	Dakota Range Apert	St Charles, IL
Daniel Pardo	Dakota Range/DNV GL	Montreal, QC
Stephanie Petelos	Dakota Range /Apert	St Paul, MN
Jennifer Bell	Dakota Range	Denver, CO
Tom Kirchheimann	SD GFP	Pierre, SD
Robert O'Neal	Dakota Range	Maynard, MA
LISA AGRIMONT	Dakota Range	Minneapolis, MN
Mollie Smith	Dakota Range	Minneapolis, MN
Leslie Murphy	GFP	Pierre, SD
Patrick Adams	Dakota Range	Sioux Falls, SD
Wade Felt	Felt Farms	Stockholm SD.
Oliver Moya	Dakota Range	Watertown SD
Drew Silverman	Dakota Range	Charlottesville, VA
David Log	Dakota Range	Sioux Falls, SD
Kristi Mogen		Twin Brooks
Teresa Kaez		Twin Brooks South Shore

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1 The following transcript of proceedings was
2 held in the above-entitled matter at the South Dakota
3 State Capitol Building, 500 East Capitol Avenue, Pierre,
4 South Dakota, on the 12th day of June, 2018, commencing
5 at 1:30 p.m.

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23 (Applicant Exhibits A1 through A17 are marked.)

24 (Staff Exhibits S1 through S6 are marked.)
25

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1 CHAIRWOMAN FIEGEN: Good afternoon. I am
2 Kristie Fiegen, and I'm Chairman of the Commission. With
3 me today is Commissioners Gary Hanson and Chris Nelson.
4 Today we are here. It's approximately 1:30 p.m. on
5 June 12, 2018. We are in Room 413 of the State Capitol
6 Building in Pierre, South Dakota, and we're here for
7 Hearing Docket EL18-003, In the Matter of the Application
8 of Dakota Range I, LLC and Dakota Range II, LLC for the
9 Permit of a Wind Energy Facility in Grant County,
10 Codington County, South Dakota for the Dakota Range Wind
11 Project.

12 I am presiding over the hearing. This hearing
13 was noticed pursuant to the Commission Order for and the
14 Notice of Hearing issued on May 15, 2018.

15 The issues in this hearing as set forth in
16 South Dakota Codified Law 49-41B-22 are: Number one,
17 whether the project will comply with all applicable laws
18 and rules; two, whether the project will pose a threat of
19 serious injury to the environment or to the social and
20 economic conditions of the inhabitants or expected
21 inhabitants in the siting area; three, whether the
22 project will substantially impair the health, safety, or
23 welfare of the inhabitants; and, number four, whether the
24 project will unduly interfere with the orderly
25 development of the region, with due consideration having

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

3 Based on these facts, the Commission will decide
4 whether the permit should be granted, denied, or granted
5 with conditions, modifications of construction,
6 operation, or maintenance of the project as the
7 Commission finds appropriate.

8 The Applicant, Dakota Range, has the burden of
9 proof. All parties have the right to be present and to
10 be represented by an attorney. All persons testifying
11 will be sworn in and subject to cross-examination by the
12 parties.

13 The Commission's final decision may be appealed
14 by the parties to the State Circuit Court and the State
15 Supreme Court.

16 Karen Cremer, our General Counsel and Commission
17 attorney, will be acting as the Hearing Examiner and will
18 conduct the hearing subject to the Commission's
19 oversight. She may provide recommendations on rulings on
20 procedure and evidentiary matters. The Commission may
21 overrule her preliminary rulings throughout the hearing.
22 If not overruled, the preliminary rulings will become
23 final rulings.

24 Just for the information of the audience
25 involved, we also have Adam de Hueck here. Adam, could

1 you raise your hand.

2 And also Greg Rislov. Greg Rislov is our
3 Commission advisor. Adam is also a Commission attorney.
4 So that means it would be ex parte if anybody talked to
5 them about the hearing at break. So just remember the
6 Commissioners and the Commission advisor and the
7 Commission attorneys cannot be spoken to about the
8 Docket. You can speak to other Intervenors, which
9 includes Staff attorneys.

10 With that, Commissioners, are there any other
11 comments?

12 We will now proceed to Ms. Cremer.

13 MS. CREMER: Thank you, Chair Fiegen.

14 Good afternoon, everyone. I'm going to start by
15 addressing a few preliminary matters.

16 First, be kind and courteous to Cheri, the court
17 reporter. Speak clearly and at a reasonable pace. And
18 that's true especially if you're reading from a document.
19 It's important not only for her but for the public who's
20 listening in on the webcast.

21 The mics in front of you are push to touch -- or
22 push to talk so they are live when the light is green.
23 Please turn off your mic when you're not speaking, and
24 when you're in this room please mute your cell phone.

25 So we will proceed by having the case in chief

1 from Dakota Range. That will be followed by Staff. That
2 will be followed by the Intervenors. And then Dakota
3 Range as the Applicant will have final rebuttal.

4 Witnesses that have filed both Direct and
5 Rebuttal Testimony must offer all of their testimony when
6 they are initially called. Cross-examination will
7 include all the witness's testimony. Have your witness
8 begin by giving a brief summary of their testimony, and
9 then we will go to cross-examination.

10 We'll begin this evidentiary hearing by taking
11 the appearances of the parties.

12 Dakota Range.

13 MS. SMITH: This is Mollie Smith on behalf of
14 Dakota Range. With me is Lisa Agrimonti, also with
15 Fredrikson & Byron. On behalf of Apex Clean Energy and
16 Dakota Range are Mark Mauersberger and Brenna Gunderson.

17 MS. CREMER: Staff.

18 MS. EDWARDS: This is Kristen Edwards and
19 Amanda Reiss for Staff. With us are Staff analysts
20 Darren Kearney and Jon Thurber.

21 MS. CREMER: And Intervenors.

22 MS. MOGEN: Kristi Mogen.

23 MS. KAAZ: Teresa Kaaz.

24 MS. CREMER: Thank you.

25 Regarding any exhibits that the parties have

1 stipulated to, do you have some?

2 MS. SMITH: So my understanding is that we have
3 stipulated to the prefiled testimony and exhibits from
4 Staff and our testimony.

5 I know that there were a number of exhibits that
6 were filed last week by Intervenors that have not been
7 addressed specifically. I also know that Dakota Range
8 filed a couple of additional exhibits on Friday that have
9 not been addressed.

10 So I think everything other than those exhibits
11 has been addressed, but, Ms. Edwards or Ms. Reiss, I'd
12 defer to you.

13 MS. CREMER: So before -- let me just ask this.
14 So, Dakota Range, is it A1 through what has been
15 stipulated to?

16 MS. SMITH: I believe that A1 through A17, with
17 the exception of A15-3 and 4 and A4-2 have been
18 stipulated to.

19 MS. CREMER: And, Ms. Edwards, would you agree
20 with that?

21 MS. EDWARDS: I would agree with that. Staff
22 Exhibit S6 was filed subsequent to our conversation with
23 the parties so I don't know if they intend to include
24 that as well in the Stipulation. And then Staff would
25 have no objection to including those exhibits that the

1 Applicant filed that were maps filed on Friday.

2 MS. SMITH: Yes. There were maps, and then
3 there were -- there was also an updated technical memo
4 from the decommissioning witness that was filed, and that
5 was the A4-2.

6 MS. EDWARDS: We'll stipulate to that as well.

7 MS. SMITH: And we stipulate to Staff's
8 submittal. I believe that was the Surrebuttal of
9 Mr. Lawrence; correct? Am I right on that?

10 MS. EDWARDS: Yes.

11 MS. SMITH: Thank you.

12 MS. CREMER: So is that Staff S1 through S --

13 MS. EDWARDS: 6.

14 MS. CREMER: Okay. And then the Intervenors, do
15 you agree with stipulating in the exhibits of Dakota
16 Range that they discussed?

17 MS. MOGEN: Yes.

18 MS. CREMER: Thank you.

19 MS. KAAZ: Yes.

20 MS. CREMER: And then, Ms. Mogen, did you have
21 any exhibits that all the parties have agreed to
22 stipulate in?

23 MS. MOGEN: I did submit exhibits. I have not
24 heard that they all agreed to stipulate to them.

25 MS. CREMER: Okay. So I'll start -- I think

1 your testimony, is that numbered? I think your -- Staff,
2 would you agree that her prefiled testimony or -- I'll go
3 to Dakota Range. Do you know --

4 MS. SMITH: We stipulated at a prehearing
5 discussion amongst ourselves to the written testimony. I
6 do not believe it has been marked with an exhibit number
7 so we may have to call it maybe M-1a or something to get
8 it into the record.

9 And the same with Ms. Kaaz's testimony. So
10 that's been stipulated to. I believe the exhibits have
11 not been stipulated to.

12 MS. CREMER: And, Ms. Kaaz, would you agree that
13 your prefiled testimony, that was stipulated to but not
14 the exhibits?

15 MS. KAAZ: I believe so, yes.

16 MS. CREMER: Okay. And, Staff, on either one of
17 those?

18 MS. EDWARDS: That is my understanding on both
19 of the prefiled testimonies, yes. It does not look like
20 either were given an exhibit number.

21 MS. CREMER: Okay. So can we do that now.

22 (Exhibit M-1a is marked for identification.)

23 (Exhibits TK-1 through TK-10 are marked for identification.)

24 (Discussion off the record.)

25 MS. CREMER: We will get it marked before you

1 actually present your testimony. We'll do that.

2 MS. KAAZ: Thank you.

3 MS. CREMER: So to move forward then, I believe
4 the parties have stipulated to the admission of A1
5 through 17 and S1 through 6, M-1a and K-1a. Is that
6 correct, Dakota Range?

7 MS. SMITH: I believe it's TK-1a, just to be
8 consistent. But that is our understanding as well.

9 Just to note, we do have one additional exhibit
10 that we may as well address at the beginning as well
11 whenever you're ready.

12 MS. CREMER: Okay. Why don't you go ahead, and
13 then we can include it.

14 MS. SMITH: Sure. So we just moments ago handed
15 out a document titled Recommended Permit Conditions.
16 It's been marked as A18. These are conditions that
17 Commission Staff and Dakota Range have agreed to. And so
18 copies have been provided to everyone in the room, and so
19 we would move admission of A18.

20 MS. CREMER: Staff.

21 MS. REISS: Staff would agree to the admission
22 of that document.

23 MS. CREMER: Ms. Mogen.

24 MS. MOGEN: I agree.

25 MS. KAAZ: I agree.

1 MS. CREMER: Thank you.

2 And then did I ask Staff, were you good when I
3 went through the A1 through 18, Staff 1 through 6?

4 MS. EDWARDS: Uh-huh. Yes.

5 MS. CREMER: Okay. And then the Intervenor,
6 you agree with my listing A1 through 18, Staff 1 through
7 6, and then your own? Those are all stipulated and
8 admitted into the record; is that correct?

9 MS. MOGEN: Correct.

10 MS. KAAZ: Correct.

11 MS. CREMER: Thank you.

12 Are there any other motions before we begin?

13 MS. REISS: Staff did file a Motion to Compel
14 that we would like addressed at some point.

15 MS. CREMER: We might as well address it now.
16 Thank you.

17 MS. REISS: Thank you.

18 Throughout this proceeding Staff has been
19 concerned with the terms of the easement due to comments
20 from members of the public. However, after the Applicant
21 submitted testimony of landowners, the need for a review
22 of the terms of the easement became even more necessary.

23 Staff attempted to obtain the document through
24 discovery, but when the Applicant refused to provide it
25 Staff was forced to file a Motion to Compel.

1 At this point whether the Applicant affords it
2 any credibility or not, the issue has been raised that
3 the easement agreements are not detrimental to the rights
4 of the landowners. It is patently unfair, though, for
5 the Applicant's testimony to rely on an outside document
6 without providing that document for review.

7 It is our job to analyze whether this project
8 would have a negative impact on the inhabitants of the
9 area. Without the benefit of reviewing the document,
10 Staff is at a significant disadvantage when it comes to
11 presenting our case and cross-examining the Applicant's
12 witnesses.

13 We won't really know until we review the
14 document what we are getting. It is difficult to
15 comprehend that the Commission could issue a
16 determination that the facility meets the requirements of
17 SDCL 49-41B-22 without even looking at the terms of the
18 Applicant's easement, nor permitting the parties the
19 opportunity to effectively question the witnesses who
20 rely on that document in their personal testimony.

21 Beyond this, Staff has significant concerns that
22 the terms of the easement could be detrimental to the
23 landowners. Throughout this process Staff has heard
24 concerns from the public regarding confidentiality
25 clauses and clauses prohibiting landowners from

1 interfering with the Applicant's ability and the process
2 to obtain a permit.

3 One commenter even raised concern that some
4 easements may contain a provision that a mechanic's lien
5 may be placed on the property.

6 If the easements do contain similar provisions,
7 the economic condition of the inhabitants may very well
8 be at issue. Do we have the landowners complaining yet?
9 No. Because the project hasn't started construction yet.
10 This is like Nancy Pelosi saying, when ObamaCare was
11 passed, that we won't understand it until it's passed and
12 goes into effect. Well, that's exactly when the
13 Complaints start rolling in.

14 At this time Staff is merely asking the
15 Commission to grant Staff's motion and require the
16 Applicant to provide Staff a copy of the easement to
17 review after the Applicant relied on the contents to
18 bolster its case that the project meets the legal
19 requirements to obtain a permit.

20 MS. CREMER: Dakota Range.

21 MS. SMITH: Thank you.

22 So, as I understand the Commission Staff's
23 Motion to Compel, they've focused on the testimony of two
24 landowners that are participants in the Dakota Range
25 project, Alice Moyer and Wade Falk.

1 Ms. Moyer and Mr. Falk addressed a question in
2 their testimony that was did they feel that the -- the
3 terms of the easement addressed their concerns regarding
4 their land. That question was included in the testimony
5 as a result of some of the questions that were asked by
6 Commission of the witnesses in the Crocker Docket, so we
7 felt that it would be appropriate to ask the question in
8 advance in testimony as opposed to wait until the
9 Commissioners had to ask it of our witnesses.

10 So the request of the landowners was simply to
11 provide their opinion of their own lease and whether they
12 felt that it protected them. It's a private agreement
13 between them and the company, and in the Crocker Docket
14 we're not required to provide a copy of the easement.

15 The reasons that have been given by Staff in
16 their Motion to Compel are they wanted to know whether it
17 includes any obstacles to a decommissioning condition.
18 In response to Data Request 8-23, Dakota Range provided
19 the provisions that address decommissioning from their
20 easement agreement so those have already been disclosed.

21 The second reason was whether it limits a
22 landowner's access to the Commission's complaint process
23 or any other legal remedy. And the conditions that were
24 just distributed as A18, the company has agreed to the
25 same provision that was required in Crocker that says

1 that the complaint process is open to participants as
2 well as nonparticipants. So that issue has also been
3 addressed through what's been submitted.

4 The third is to verify the fairness of the
5 Rebuttal Testimony submitted by Alice Moyer and
6 Wade Falk. And Mr. Falk and Ms. Moyer provided their
7 opinion. I don't believe that having -- anyone having a
8 copy of the lease is going to change whether their
9 opinion was appropriate or not. That is their opinion of
10 their lease agreement.

11 And so we have asked Staff if there are
12 particular provisions they were concerned with. Other
13 than the decommissioning provisions that we provided,
14 they indicated, no, they wanted the entire lease of both
15 landowners, and so we don't think that that is necessary
16 or relevant to the discussion to get into the terms of
17 the easement agreement, particularly since no landowner
18 within the project has raised a concern about it to date.
19 So we would oppose providing the entire lease agreement.

20 MS. CREMER: And, Ms. Mogen, did you want to
21 weigh in?

22 MS. MOGEN: I'm fine.

23 MS. CREMER: Ms. Kaaz?

24 MS. KAAZ: Not at this time.

25 MS. CREMER: Thank you.

1 I'm going to grant Staff's Motion to Compel, and
2 I would ask that the easements be filed confidentially.

3 MS. SMITH: We will do that.

4 COMMISSIONER NELSON: Ms. Cremer, if I might ask
5 a timing question. I'm assuming that these witnesses are
6 going to be on today or tomorrow, and so would you like
7 to maybe provide a deadline for that?

8 MS. CREMER: As soon as possible. I would think
9 that you, you know, probably have staff on hand that can
10 get that done and get that filed yet this afternoon.

11 MS. SMITH: Can I make a request that the leases
12 be the generic lease form as opposed to the specific
13 leases of Ms. Moyer and Mr. Falk? That will be more
14 difficult for us to produce in a quick fashion.

15 MS. CREMER: And then I guess just to confirm,
16 so it's a boilerplate easement, but you have no reason to
17 believe those terms are any different for these two
18 parties?

19 MS. SMITH: No, I do not.

20 MS. CREMER: Okay. If Staff --

21 MS. REISS: Staff is fine with that.

22 MS. CREMER: All right. That would work. Thank
23 you.

24 MS. SMITH: Okay. Thank you.

25 MS. CREMER: Any other motions? Anything before

1 we begin the --

2 MS. SMITH: None from us. Thank you.

3 MS. CREMER: Opening statements. My
4 understanding is nobody wants an opening statement. If
5 it's otherwise, let me know.

6 Do the Commissioners have anything?

7 COMMISSIONER HANSON: No.

8 MS. CREMER: With that, we'll begin.

9 Dakota Range, you may call your first witness.

10 MS. AGRIMONTI: Thank you, Ms. Cremer,
11 Commissioners. Dakota Range would call Dr. Mark Roberts.

12 Dr. Mark Roberts,
13 called as a witness, being first duly sworn in the above
14 cause, testified under oath as follows:

15 DIRECT EXAMINATION

16 BY MS. AGRIMONTI:

17 Q. Are you situated and ready to begin?

18 A. I am ready to begin.

19 Q. Thank you. Would you please introduce yourself to
20 the Commissioners and those present in the hearing today.

21 A. I'm Mark Roberts. I'm a physician. I work for a
22 company called Exponent. I've worked for that company
23 for about 14 years. I live Edgerton, Wisconsin. My
24 office is in Chicago.

25 Q. Could you please provide an overview of your

1 education and work history.

2 MS. CREMER: I'm just going to interrupt for a
3 minute. You really have to almost eat that mic in order
4 for us to all -- thank you.

5 THE WITNESS: What flavor is it?

6 MS. CREMER: Not good.

7 THE WITNESS: Not good. Okay.

8 A. My educational background is I'm a physician board
9 certified in occupational and environmental medicine.
10 And I've practiced that since '86. So it's a practice of
11 medicine where you focus on workplace, on workers but
12 also the environmental issue because the workplace is
13 just kind of a different environment.

14 Also I have a Ph.D. in epidemiology and
15 biostatistics. That's the study of phenomena that occur
16 in populations. And then some other degrees that go
17 along with that.

18 My experience is I spent 17 years in the State
19 Health Department in Oklahoma. The last five years I was
20 the State Epidemiologist in Oklahoma dealing with
21 infectious diseases, swine flu, that sort of thing, but
22 also environmental issues like the Superfund and asbestos
23 in school buildings.

24 After that I spent nine years as a professor at the
25 Medical College of Wisconsin, ending up as acting chair

1 of the Department of Permitting Medicine at the Medical
2 College of Wisconsin in Milwaukee. During that time I
3 was also staff physician for seven companies at various
4 points in the Milwaukee area, doing hands-on occupational
5 and environmental medicine.

6 Then I got a wild hair and went to the corporate
7 world. I was a corporate medical director, associate
8 medical director, and then corporate medical director for
9 a large energy company. And then tried to retire and
10 that didn't work, and so I went to work for Exponent. So
11 I've been there for 14 years, and it's really combining
12 all the experiences I've got public healthwise,
13 addressing public health issues like we're here today
14 addressing but also outbreaks.

15 I still consult with health departments. Everything
16 from fluoride treatment to approving of the new influenza
17 immunizations for next year.

18 So right now I put it all together as a consultant
19 at Exponent. I'm licensed to practice medicine,
20 unrestricted license, in Wisconsin and Oklahoma.

21 Q. Dr. Roberts, did you file Prefiled Direct Testimony
22 in this matter?

23 A. I did.

24 Q. And was that labeled as Exhibit A2, A2-1 through
25 A2-8?

1 A. It is.

2 Q. And did you also file Rebuttal Testimony on May 21?

3 A. I did.

4 Q. And is that Exhibit A3?

5 A. Yes.

6 Q. All right. Let's start first with your Direct
7 Testimony. Would you please provide a brief summary of
8 your topics of your Direct Testimony?

9 A. Yes. That's on page 3 of Exhibit 2. On that page I
10 list five basic opinions that I have about -- I think in
11 the course of questions today that we'll hear others, but
12 the first one is the fact that based on the science,
13 peer reviewed public science, there is not a specific
14 adverse health effect associated with wind turbines.

15 The tried and true method, the scientific method,
16 the one that the scientists follow, that repeated
17 research supports Opinion No. 1, that there's not a
18 specific adverse health effect.

19 No. 3 is -- really talks about the case reports. If
20 you look on the internet -- in December I Googled the
21 internet and found 2.37 million citations regarding wind
22 turbine health. All sorts of things on there. And so
23 those sorts -- we call those case reports or anecdotal
24 reports, and those are not scientific observations.
25 They're merely observations that help stimulate research

1 and publication about a particular topic.

2 Item 4 is about the fact that there are right now
3 13 opinions from around the world from -- the most recent
4 one is like France and Germany, Australia, New Zealand.
5 Countries have statements about wind turbines and the
6 fact that there is not a specific adverse health effect
7 associated with it.

8 As far as the United States, there's not a single
9 opinion. States -- about 11 states now have had various
10 hearings and reviews by scientific groups. In those,
11 again, there is no specific adverse health effect
12 associated with wind turbines that's been identified.

13 Certainly the last one is -- No. 5 is one of the
14 things that a number of these studies and these opinions
15 have come up with the opinion that wind turbines are
16 associated with annoyance.

17 Annoyance is not a health effect. Annoyance is a
18 normal everyday occurrence. Probably some people in this
19 room are annoyed right now with the fact that we have to
20 do this.

21 You know, one person's music is another person's
22 noise. That's annoyance. A baby's cry, for example, may
23 be reassuring to a mother, or it can be annoying to the
24 mother if she's trying to do something else. So it's
25 very important to understand that annoyance, while it's

1 very commonly associated with new technology such as wind
2 turbines, that is not a health effect.

3 So that's the five that I talked about at that
4 point.

5 Q. Did you also address some concerns about epilepsy
6 and autism?

7 A. I did. Again, the wind turbines cycle. They rotate
8 at a given speed, depending on the wind speed. But what
9 we're looking at is turbines tend to have a frequency of
10 about .5 to 1 hertz. It's pretty slow.

11 The photosensitive epilepsy that is often talked
12 about is a special -- is a subset of epilepsy. And the
13 literature would tell us that the lowest is probably 5.
14 There's been a couple of people have suggested 2 hertz.
15 But that's way above what wind turbines produce in full
16 power. So for that --

17 The shadow flicker, well, it's there. I have shadow
18 flicker in my kitchen every morning right now during the
19 season of the year when the sun comes through the windows
20 because of the ceiling fans. So we all see flicker. The
21 monitors that we have right now flicker. And if you've
22 ever seen a videotape of a screen, you'll notice it's
23 flickering, and I think it's at 60 hertz.

24 Then as far as autism, autism is a really difficult
25 situation to deal with. Number one is it's very trying

1 to the parents, to the grandparents, and that sort of
2 thing. But the other is it's very frustrating because
3 it's fairly new. And now they're talking about autism
4 spectrum disorder. So it's a range. It can be very
5 severe. It can be very mild.

6 Currently there is no data to indicate that wind
7 turbines, being in the vicinity of wind turbines or, for
8 that matter, specific noises that might be heard are
9 associated with autism.

10 Q. Thank you.

11 And, Dr. Roberts, you said you also filed Rebuttal
12 Testimony. What generally were the topics you addressed
13 there?

14 A. Yeah. One of the things there was really -- there's
15 two things that came out of that. Dr. Hessler had talked
16 about sensitive individuals. I think that one of the
17 things there that when we're -- that's hard to measure.
18 Some people are more sensitive to different sounds, but
19 the problem is you can't associate that, the way he's
20 proposing, to wind turbines or any other annoying event.

21 The sensitivity refers -- I think -- he never --
22 yes, he did. He talked about Steve Cooper's study, which
23 is the Cape Blackwater study -- Blackwater [sic] study.
24 And in that they looked at six individuals who had
25 complained about wind turbines and found that they could

1 sense the effects of wind turbines, they thought. In
2 fact, one of the people thought he felt the wind
3 turbines, and he didn't. The wind turbines weren't on.

4 So in the end, in the summary, Steven Cooper says
5 it's not a health study, number one. Number two is you
6 can't formulate a causational opinion based on a study of
7 six individuals. So while I respect Dr. Hessler for what
8 he's done in his career, I believe that the sensitivity
9 issue that he's talking about and the sound -- the noise
10 level that he's advocating is not supported in the
11 literature when it talks about wind turbines and possible
12 effects.

13 Q. Dr. Roberts, again, you addressed the epilepsy and
14 autism concerns; is that right?

15 A. I did address those more specifically. I think my
16 previous statement a few minutes ago kind of bled over to
17 that one.

18 Q. Thank you.

19 A. But the point being that, again, the National
20 Epilepsy Association, I believe -- I would have to -- I
21 referenced it. Have come out and said that wind turbines
22 are not rotating at a speed that would -- would induce
23 photosensitive epilepsy. Nor would the red lights on the
24 towers.

25 Q. Dr. Roberts, do you have any additions or

1 corrections to your prefiled testimony?

2 A. You know, I read through it, and I don't believe so.
3 I looked to see if there was new literature. There's
4 always new literature coming out, but I think the
5 literature we cited is sufficient to support the
6 opinions.

7 Q. Thank you.

8 Would your prefiled testimony be the same if I asked
9 you those same questions here today?

10 A. Yes, they would.

11 MS. AGRIMONTI: That's all the questions I
12 have for Dr. Roberts, and he's available for
13 cross-examination.

14 MS. CREMER: Thank you.

15 Staff.

16 MS. EDWARDS: Excuse me. Staff has no cross.

17 MS. CREMER: Thank you.

18 Ms. Mogen.

19 MS. MOGEN: Thank you. I do have some cross.

20 CROSS-EXAMINATION

21 BY MS. MOGEN:

22 Q. Dr. Roberts, Exhibit 2, A2-7, right here.

23 A. Got it.

24 Q. Okay.

25 A. Got to get there, though.

1 Okay. That's the study from Massachusetts. Yes.

2 Q. Are there no -- you know, technology changes so fast
3 that in the 12 months we've heard a lot about turbines
4 changing. And this study is through 2012.

5 Is there no science that is newer than that?

6 A. You know, like I said, the French study is 2017.

7 Q. Okay.

8 A. Japanese study is 2016. It's not a study. It's a
9 panel that was brought in to review the literature that
10 was available.

11 So I think I was looking at papers as far as 2018
12 where -- that's part of science, that it continues to
13 evolve and gather additional information, and we feel
14 more comfortable as more science becomes available to
15 talk about causation.

16 And so, you know, there have been studies since the
17 2012. For example, Oregon did 2013. Tennessee did 2016.
18 Wisconsin did 2014. The second one. They did one before
19 that. So there's been a number of them.

20 Q. Okay.

21 A. I'm still okay with it.

22 Q. And did you -- maybe I'm paraphrasing, but noise is
23 subjective?

24 A. Absolutely. Noise is subjective. Right now in this
25 room we're all tolerating it pretty well, but it's

1 probably around 40 or 50 decibels because of the air
2 handling unit.

3 Q. Okay. And have you talked with or examined people
4 who have lived with constant stress for several years or
5 being annoyed with something that they cannot control?

6 A. Yes. Definitely. Whether it be work-related
7 situations, traumatic events, that sort of thing.

8 But one of the things is that stress is kind of like
9 friction. You wouldn't get anywhere without friction.
10 The car wouldn't go, that sort of thing. We're all under
11 stress. And so it's one of those things where medically
12 there's ways to deal with stress. And so, yes,
13 there's -- certainly stress is something that affects us
14 on a daily basis. It's not a disease. It's kind of a
15 normal response.

16 Q. Okay. On page 13 of that exhibit can you read
17 No. 2?

18 A. It starts with, "There is limited evidence"?

19 Q. Uh-huh.

20 A. Page A2-7 says, "There is limited evidence from
21 epidemiological studies suggesting an association between
22 noise from wind turbines and sleep disturbance. In other
23 words, it is possible that noise from wind turbines can
24 cause sleep disruption."

25 Q. What's the number one precipitator of a seizure?

1 A. There's a number of different responses that can be
2 associated with a seizure. What kind of seizure are you
3 talking about?

4 Q. According to your reference for --

5 A. Okay. Excuse me.

6 Q. For the photosensitive epilepsy, it was a website.
7 And on there it said the number one precipitator of
8 seizure was sleep deprivation, and that's off your
9 reference.

10 A. Okay. Can you point me to that?

11 Q. No. It is in -- I don't have the full printout of
12 this exhibit. It's in this exhibit and that is where I
13 read it and I went to the website that you referenced,
14 not a peer reviewed report.

15 A. Got it.

16 One of the things about sleep disruption -- and,
17 again, some of the current literature just coming out of
18 the Netherlands and Scandinavia countries talking about
19 sleep disturbance and the fact it's not associated with
20 the noise produced by wind turbines but actually by the
21 level of annoyance that an individual has regarding the
22 wind turbine process.

23 So it's one of those things where, you know, if
24 things worry you, they'll keep you up at night. And so
25 if you're worried about something, there can be no

1 external stimulation. You're just thinking about it.

2 How many of us have woken up at night and worried
3 about things? And so it's hard to come up with a number.
4 But one of the things is some of the studies are now
5 showing that when we look at sleep disturbance in a
6 normal population it can be upwards of 20, 25 percent of
7 the individuals have some sort of sleep disruption at
8 night on a regular basis. So it's hard to determine it's
9 not -- the literature does not support that wind turbines
10 specifically are associated with sleep disturbance.

11 Q. Is that not what you just read?

12 A. That's what's in this -- in 2012 when this came out
13 that's what the committee said. That's not what the
14 literature says today in 2017.

15 Q. But you submitted this one?

16 A. Yeah. Because of all the other things. I don't
17 agree with everything on every page of this document.

18 Q. Okay.

19 A. As a scientist you can't do that.

20 Q. Okay. Can you look at page 14 of 164?

21 A. 164?

22 Q. Page 14.

23 A. Got it.

24 Q. And No. 4 -- or 2B. It's the very bottom of the
25 page.

1 A. Got it.

2 Q. That -- go ahead and read that.

3 COMMISSIONER HANSON: Would you read it slow
4 enough for the court reporter. You were like an
5 auctioneer the last time.

6 A. We're reading ES 4-2B, "Health impacts of shadow
7 flicker. Number one, scientific evidence suggests that
8 shadow flicker does not pose a risk for eliciting
9 seizures as a result of photic stimulation."

10 THE WITNESS: P-H-O-T-I-C.

11 Q. Does this report discuss whether the flicker is
12 worse while driving through hills up and down when the
13 flicker is happening, or does it address going in and out
14 of trees and being exposed at different speeds to that
15 flicker?

16 MS. AGRIMONTI: I'm going to ask that the
17 question be broken down into one question at a time.
18 There was two there.

19 Q. Okay. Does this report address that flicker changes
20 while driving at 65 miles an hour?

21 A. Flicker from what?

22 Q. Your reception of it. If you're driving 65, does
23 that change how the flicker --

24 MS. AGRIMONTI: I'm going to object as a vague
25 and ambiguous question at this point.

1 MS. MOGEN: Okay.

2 MS. CREMER: Can you maybe go back? I think
3 your original one when you were reading it, that may help
4 you.

5 Q. Does this report address flicker while driving
6 65 miles an hour?

7 A. I don't recall that it does.

8 Q. Does this report address flicker while going up and
9 down hills?

10 A. I don't recall that it does.

11 Q. And does this report address flicker while going in
12 and out of trees?

13 A. I don't recall that it does.

14 Q. Okay. On No. 3 of that page, how far does shadow
15 flicker go?

16 A. It all depends on the source of light, the source of
17 the flicker, and the receptor.

18 Q. Okay. And the receptor?

19 A. The receptor.

20 Q. And what does this report say?

21 A. This reports reads on page 7, No. 3 under ES A-2A,
22 "Shadow flicker's only present at distances of less than
23 1,400 meters from the turbine."

24 Q. This is Figure No. 3-2B from the flicker map. Can
25 you tell us how far the flicker is represented on this?

1 MS. AGRIMONTI: I don't know which exhibit this
2 is. I don't know that we have it.

3 MS. MOGEN: It is the flicker maps. No. It's
4 the flicker maps submitted by O'Neal.

5 MS. AGRIMONTI: Okay. Can you --

6 MS. CREMER: Does it have a number on it?

7 MS. MOGEN: Yeah. It says Figure 3-2B. It is
8 the flicker map that is in the report, the flicker
9 report, shadow flicker report. Under -- it's under the
10 Application.

11 So if you look under Application, and you look
12 at shadow flicker --

13 MS. CREMER: Were you able to find that, Dakota
14 Range?

15 MS. AGRIMONTI: I have not found it yet. I'd
16 like to interpose an objection. This is not a witness
17 that's here to talk about shadow flicker with respect to
18 the specific project or the report.

19 The report was offered by Mr. O'Neal who will be
20 offered for cross-examination.

21 MS. MOGEN: Okay. That's fine.

22 MS. CREMER: Thank you.

23 MS. MOGEN: That concludes my questioning.

24 MS. CREMER: Ms. Kaaz.

25 MS. KAAZ: Yes. I have one question.

CROSS-EXAMINATION

BY MS. KAAZ:

Q. Do you believe that sleep deprivation has adverse health effects?

A. I think it can, under certain circumstances.

Q. Okay. Do you believe that undue stress can cause health effects, adverse health effects?

A. I think that if it's not medically treated, it could.

Q. Undiagnosed high blood pressure, that causes health effects as well?

A. Absolutely. Diagnosed high blood pressure does too.

Q. I have -- in different times I have high blood pressure due to an accident, due to stress levels in my family. Been on medication on and off.

So do you believe that that high blood pressure if I did not go in and have it checked, it could be detrimental to my health?

MS. AGRIMONTI: Objection. The questioner is testifying, and it's not relevant.

MS. CREMER: I would sustain that.

COMMISSIONER NELSON: I would overrule also.

COMMISSIONER HANSON: Overrule.

MS. CREMER: Okay. You may answer, if you can.

A. Well, we all know that high blood pressure

1 uncontrolled is -- can be detrimental to your health.
2 There's a number of causes of hypertension, high blood
3 pressure. But there's also a number of medications that
4 can be used to help lower that blood pressure.

5 MS. KAAZ: That's all the questions I have.

6 MS. CREMER: Thank you.

7 I will start with Commissioner -- Chair Fiegen.

8 CHAIRWOMAN FIEGEN: Thank you. And thank you,
9 Dr. Roberts, for coming to South Dakota.

10 Just one question today. In your testimony on
11 page 3 -- and you talked about it. As you know, this is
12 an evidentiary hearing, and peer reviewed and published
13 scientific literature is important to the Commission.

14 When you read that peer reviewed and scientific
15 literature that's been published, are there participating
16 landowners that are the primary source of those studies?
17 Are they participating landowners, or are they adjacent
18 landowners that do not participate in the wind project?

19 THE WITNESS: It really depends on the
20 particular publication. But a number of those where the
21 states and nationally, which I talked about, look at all
22 different types of studies, and they formulate their
23 opinions based on all those different types of studies.

24 One of the things that is very important is
25 looking at preexisting conditions, for example. Like

1 Neenah Pierpont is a person if you Google about wind
2 turbine syndrome, you'll come up with that name.

3 She did not scientifically review the health
4 history of the individuals before they started the wind
5 turbine project and the complaints. As the question was
6 asked about hypertension, for example, it's very
7 important to know whether the person had hypertension
8 before the wind turbine project went in, for example.
9 That's very important in any situation looking at
10 association -- look for preexisting conditions.

11 But, yes, a number of the studies did look at
12 both affected -- or landowners, participants and
13 nonparticipants, where they could.

14 CHAIRWOMAN FIEGEN: Okay. Now I was just about
15 done, and then you said "where they could."

16 THE WITNESS: I'm sorry about that.

17 CHAIRWOMAN FIEGEN: What does where you could
18 mean?

19 Because, you know, that's certainly a concern of
20 the Commission. We want to make sure that everybody can
21 participate in those type of studies and there is not
22 something in their easement that they can't participate.

23 THE WITNESS: Right. Well, and when I say
24 that -- because there are several studies where they took
25 individuals and had them sit down in a sound booth and

1 listen to recordings of wind turbines, and you could
2 actually study that individual beforehand and ask them
3 about their opinions about wind turbines, that sort of
4 thing. One particular study did it that way.

5 One particular study took two groups of
6 individuals and, if you will, contaminated them
7 beforehand, showed them adverse information about wind
8 turbines and that sort of thing and then tested them and
9 compared to see if the preconceived notions might affect
10 the person's reporting of symptoms or reporting of
11 hearing the wind turbine sounds.

12 So that's another type of study. That's why I
13 put that in there.

14 CHAIRWOMAN FIEGEN: So it's my understanding
15 from your answer to my question is that, yes, landowners
16 that are participants in wind projects were definitely
17 part of these studies?

18 THE WITNESS: In some of the studies, that's
19 correct.

20 CHAIRWOMAN FIEGEN: Thank you.

21 COMMISSIONER NELSON: Thank you for being here.

22 On page 13 of your Direct Testimony I'm going to
23 read just two sentences at the top of that starting on
24 line 369.

25 368. "There have been illnesses, symptom

1 complexes, and other health events attributed to wind
2 turbines. This is to be expected given the circumstances
3 and emotions that often surround the presence of wind
4 turbine farms."

5 And so I'm trying to understand that, and the
6 way I'm interpreting what you've said is that individuals
7 that might have an anxiety about the presence of wind
8 turbines, that that anxiety in itself could manifest
9 itself in symptoms or actual illnesses.

10 Is that accurate? Is that what you're saying?

11 THE WITNESS: That accurately reflects part of
12 what I'm saying. But I would add that the reporting of
13 symptoms -- for example, if I ask everybody in the room
14 how many have had headaches in the last seven days, you
15 know, we're going to get a number that has nothing to do
16 with, you know, exposure.

17 And so that's one of the things that we see in
18 new technology, whether it be high voltage lines running
19 cross country -- telephones. When telephones first came
20 into existence there were groups of people that said
21 telephones would cause you to go to deaf because it would
22 cause buzzing in your ear.

23 So with every new technology there's been health
24 concerns that had to be addressed.

25 COMMISSIONER NELSON: Thank you.

1 COMMISSIONER HANSON: I have a question.

2 MS. CREMER: Okay.

3 COMMISSIONER HANSON: Good afternoon, Doctor.

4 THE WITNESS: Good afternoon.

5 COMMISSIONER HANSON: I enjoyed reading your
6 testimony, and I enjoyed listening to your testimony.

7 You have just a couple more degrees than I do if
8 I include all of them that my grandkids gave to me.

9 THE WITNESS: All I ever wanted to be was a
10 welder.

11 COMMISSIONER HANSON: As I look at all your
12 degrees, I don't see one on psychology, but I assume you
13 studied psychology as you went through the --

14 THE WITNESS: I have.

15 COMMISSIONER HANSON: All of the process. And
16 not having a great deal of experience with any of these
17 degrees, I don't know to what degree you studied
18 psychology.

19 Can you tell us?

20 THE WITNESS: Excuse me. Could you ask --

21 COMMISSIONER HANSON: Did you study psychology,
22 and to what extent?

23 THE WITNESS: Yes. In medical training all
24 physicians go through various rotations. And one of the
25 rotations I went through was psychiatry. It's one of the

1 most difficult rotations to do because of the need and
2 also the forms of treatment.

3 Physicians are trained to treat you. You come
4 in with fever, broken bone, whatever, physicians are
5 trained to fix it. In psychology it's working with the
6 patient to fix it. We have a lot more medications now,
7 but it's -- psychology, it's difficult, and it permeates
8 all we do every day.

9 COMMISSIONER HANSON: Thank you. I see in your
10 exhibits, a number of them from Australia, and you
11 mentioned verbally New Zealand. Is New Zealand one of
12 those that were incorporated with the Australian
13 exhibits?

14 THE WITNESS: Actually, no. New Zealand did a
15 separate one.

16 COMMISSIONER HANSON: With the significant
17 changes that have taken place over the past several years
18 with wind turbines, the advancements that have taken
19 place, certainly there are -- there are a lot more
20 functioning parts. Do these exhibits -- are they recent
21 enough to incorporate the newer turbines?

22 THE WITNESS: I think that through 2017, yes.
23 But technology -- and I'm not an engineer, but in
24 participating in hearings like this, I get to hear
25 engineering testimony. The evolution of wind turbines is

1 quite brisk, if you will. And the noise patterns have
2 changed from my nonengineering perspective.

3 So I think that as we move through this we're
4 getting -- it appears to me that the studies are still
5 applicable because we're talking about sound in general,
6 we're talking about sensation, we're talking about
7 annoyance with the process. And so it's still
8 applicable. But there certainly are a continuing
9 evolution of wind turbines.

10 COMMISSIONER HANSON: I had another question,
11 and to an extent it will probably piggyback on I believe
12 Ms. Mogen's question.

13 I was curious, with the concentration of wind
14 turbines that are being proposed and constructed in the
15 northeastern portion of South Dakota, there's a number of
16 highways, roadways through that area. Is there any
17 information pertaining to the effect of shadow flicker on
18 persons driving automobiles through those areas of high
19 concentration?

20 THE WITNESS: Okay. One of the things --
21 there's a number of things that causes flicker as you go
22 down the road right now, down 90. Various structures and
23 that sort of thing, and in some places the roadway is low
24 enough that the fence posts can actually cause a flicker
25 effect out of the corner of your eye. We've not seen an

1 effect with that.

2 The second thing is that with flicker, it
3 changes by the minute, depending on where the sun is.
4 And especially when you're driving and you're changing
5 directions as well as the sun's changing directions most
6 of the time. So that all affects flicker.

7 But, again, we have not seen a situation where
8 photosensitive epilepsy would occur with wind turbines.

9 COMMISSIONER HANSON: Thank you very much. And
10 I did enjoy reading your material.

11 Thank you.

12 MS. CREMER: Do you have redirect?

13 MS. AGRIMONTI: I do not.

14 MS. CREMER: So, Staff and Intervenors, if you
15 have any redirect [sic] solely as to the Commissioners'
16 questions.

17 MS. EDWARDS: Briefly, thank you.

18 RECROSS-EXAMINATION

19 BY MS. EDWARDS:

20 Q. Just in response to Commissioner Fiegen's question
21 about participating landowners involved in this study.
22 You stated that participating landowners were a part of
23 the studies that you looked at.

24 To your knowledge, were nonparticipating landowners
25 also a part of that study?

1 A. Some of them they were. I don't have a breakdown of
2 that, per se. Again, epidemiologists go where they can
3 get the data, the scientists that are doing these
4 studies. And so it really depends on the availability of
5 data. Some of them have it, and some of them don't. The
6 studies are not all alike.

7 MS. EDWARDS: Thank you. No further questions.

8 MS. CREMER: Did either of you have anymore
9 questions?

10 MS. KAAZ: No, I don't.

11 MS. MOGEN: No, I don't.

12 MS. CREMER: Thank you.

13 And, with that -- did you have any redirect?
14 Anything -- Dakota Range, did you have any --

15 MS. AGRIMONTI: I'm sorry. I was doing a paper
16 shuffle.

17 No. I have no more questions. Thank you.

18 MS. CREMER: All right. With that, you may step
19 down. And Dakota Range, you can call your next witness.
20 Thank you.

21 (The witness is excused.)

22 MS. SMITH: We would call Mr. Daniel Pardo.

23 Daniel Pardo,
24 called as a witness, being first duly sworn in the above
25 cause, testified under oath as follows:

DIRECT EXAMINATION

BY MS. SMITH:

Q. Mr. Pardo, could you please introduce yourself to the Commission.

A. Yes. My name is Daniel Pardo, and I work for DNV GL, the company that made the decommissioning cost analysis.

Q. And did you file Direct Testimony in this matter?

A. No, I didn't.

Q. Did you file Rebuttal Testimony?

A. Yes, I did.

Q. And is that Rebuttal Testimony marked as Exhibits A4 and A4-1 through A4-2?

A. Yes. That's correct.

Q. And can you just briefly explain what is covered in your testimony?

A. Sure. The testimony provides an explanation of what the decommissioning analysis assumptions are. It provides also some answers to the statements made by Ms. Mogen about the decommissioning cost per turbine.

Q. And as far as updates or corrections to your testimony, do you have any updates?

A. The exhibit that you mentioned, A4-2 contains an updated version -- or resource of the cost analysis estimated by Friday.

1 Q. And when we're talking about A4-2 I believe there's
2 two parts to that exhibit; is that correct?

3 A. A4-2 includes three updated assumptions on the
4 analysis. The results are even more conservative than
5 some of the assumptions that were filed with the
6 Application. That's the main purpose of that document.

7 Q. And with respect to your Rebuttal Testimony, was --
8 what report was referenced in your Rebuttal Testimony
9 when you were talking about the cost estimate?

10 A. Thank you. The Rebuttal Testimony references a
11 draft version of the decommissioning cost analysis. And
12 the A4-2 document refers to the final version of the same
13 document, which was included as well.

14 Q. And just to clarify, so there was a draft of the
15 decommissioning cost estimate provided with the
16 Application?

17 A. That's correct.

18 Q. And your testimony actually referred to the final
19 version of the decommissioning cost estimate?

20 A. Yes. That's correct. That's because there was a
21 misunderstanding -- or lack of communication between the
22 project and the DNV GL about which file was submitted.

23 Q. And as far as that final decommissioning report, is
24 that contained in Exhibit A-4?

25 A. Yes. That's correct.

1 Q. And then let's talk a little bit briefly about this
2 technical memo that is in A4-2. And you reference some
3 assumptions that were made.

4 Can you explain those conservative assumptions and
5 what they are and how they're addressed in the technical
6 memo?

7 A. Yes. So the technical memo contains those three
8 updated assumptions. They would be first -- there is an
9 increase on the depth of the decommissioning of the
10 associated facilities to 4 feet compared to 3 feet, which
11 was the value used for the final cost analysis as well as
12 for the draft one.

13 The updated memo also includes the decommissioning
14 of an O&M building, although DNV GL believes this is not
15 a realistic assumption because O&M buildings are often
16 sold to the landowners or left so that they can be
17 reused.

18 And, finally, the -- there is an increase in the
19 local road length from approximately 19 miles to 23,
20 which reflects in a more accurate way the amount of -- or
21 the length of the local roads to be decommissioned.

22 Q. And does your technical memo also address inflation
23 as far as the cost of decommissioning?

24 A. Yes. At the request of the project, DNV GL has
25 made -- or yeah. Has estimated the cost of

1 decommissioning the project in the future. We have done
2 it upon request, and we believe that it's very difficult
3 to -- gave a weight that cost -- or the time cost of
4 money; therefore, we believe that the other figure which
5 does not take into account inflation is the one that
6 should be used as reference.

7 Q. And when you say "the other figure," are you
8 referencing in Table 3-1, the 44,528, the no resale
9 figure?

10 A. Yes. That's correct.

11 Q. And can you explain the difference here between the
12 no resale and the partial resale?

13 A. Yes. Under the cost analysis that DNV GL has
14 prepared, we evaluate two scenarios. Scenario number one
15 takes into account salvage of material as scrap. For
16 example, the steel from the turbine towers is sold as
17 scrap. For that scenario is what we call the no resale
18 scenario. It's number one.

19 And then we have a second scenario where we take
20 into account the potential resale of turbine major
21 components in a secondhand market, which in this case
22 provides a positive revenue for the project, should that
23 be the case.

24 Q. And with respect to the decommissioning cost
25 estimate that you've provided in the updated technical

1 memo, how accurate do you feel that estimate is?

2 A. The document provides the most accurate estimate
3 that DNV GL can provide based on our experience. And our
4 experience is that DNV GL participates on the project
5 finance of approximately 75 percent of all the wind
6 energy projects financed throughout North America, which
7 gives us a very good and comprehensive understanding of
8 the processes and the costs associated to construction.

9 Q. And with respect to those costs of construction, are
10 those then used for your decommissioning cost analysis?

11 A. That's correct. As explained in the cost analysis,
12 the similarities between the construction and
13 decommissioning processes are very high. Therefore, we
14 are -- it's basically the same process, just the other
15 way around.

16 Q. And you also talked about conservatism in your
17 estimate. Can you explain again what is conservative
18 about the estimate?

19 A. Yeah. So in the cost analysis we have made a few
20 conservative assumptions. The first one is that we
21 assume all local roads will be reclaimed. We think
22 that's conservative and likely not to occur because
23 landowners, at least some of them, might request their
24 roads to remain for their use.

25 Second conservative assumption is that we have

1 assumed all the roads to be 16 feet wide. In reality
2 lots of the local roads are narrower.

3 There's a third conservative assumption. With
4 regards to the distance from the project to the recycling
5 or disposal facilities, we have used numbers which are
6 conservative in terms of the distance that trucks will
7 have to drive.

8 We have also included only the major components of
9 the wind turbines which are less than five years old to
10 be resold, and in reality components which are even older
11 can also be resold.

12 And, finally, the medium rate components from the
13 turbine are assumed not to be resold, but in reality
14 those could also be sold for the project as a positive
15 revenue.

16 So those are at least five assumptions which are
17 conservative.

18 MS. SMITH: I have no further questions other
19 than --

20 Q. I should ask one more. Other than the updates that
21 you provided today, would your testimony in your prefiled
22 testimony be the same as it was as you filed it?

23 A. Yes. That's correct.

24 MS. SMITH: I have no further questions. And
25 Mr. Pardo is available for cross-examination.

1 MS. CREMER: Thank you.

2 Staff.

3 CROSS-EXAMINATION

4 BY MS. EDWARDS:

5 Q. Thank you, Mr. Pardo. Does cabling need to be
6 stripped of its insulation in order to be recycled?

7 A. Can you repeat the question?

8 Q. Does cabling need to be stripped of its insulation
9 in order to be recycled?

10 A. I don't know the answer to that question.

11 Q. Based on your experience, why would cost estimates
12 range from a net gain to \$200,000 per turbine?

13 A. Well, as mentioned before, the documents that we've
14 submitted, the current memo presents our most accurate
15 and updated estimate on the cost for decommissioning the
16 Dakota Range project, and that leaves two figures. In
17 scenario one with no resale to 44,500 approximate value
18 and positive revenue of approximately 22,000 for the
19 project.

20 There is a series of variables that could increase
21 those costs, but those will have to be looked into in
22 detail.

23 MS. EDWARDS: Thank you, Mr. Pardo. No further
24 questions.

25 MS. CREMER: Do the Intervenors have any

1 questions?

2 MS. KAAZ: No, I do not.

3 MS. MOGEN: I do.

4 CROSS-EXAMINATION

5 BY MS. MOGEN:

6 Q. Mr. Pardo, how many projects in the United States
7 have been decommissioned?

8 A. I'm sorry. I don't know the answer to the question.

9 MS. MOGEN: Thank you.

10 MS. CREMER: Commissioner Hanson.

11 COMMISSIONER HANSON: Thank you.

12 Good afternoon.

13 THE WITNESS: Good afternoon.

14 COMMISSIONER HANSON: I have wanted for some
15 time to have what I would consider a good idea on costs
16 of decommissioning with turbines. And I was excited to
17 see that there was going to be one and low and behold I
18 open it up and it's 32 pages. More than I had thought
19 that I would be able to obtain, and it goes into deeper
20 depth than what I had anticipated. I appreciate it very
21 much. It's something that I think that all of us have
22 been curious about.

23 As I looked over the information, I noticed with
24 the updated assumptions -- I appreciate that you updated
25 them because I think that's far more accurate, and I

1 appreciate the fact that it appears that it's a
2 conservative estimate from the standpoint of being able
3 to analyze it.

4 I'm wondering, though, when I look at even the
5 updated assumptions, number one addresses it to an
6 extent. It talks about the wind turbine generators,
7 electric cabling, the components, roads, associated
8 facilities from 3 to 4 feet below grade for removal.

9 In all of this process I did not run into
10 something that talked about the footing and the
11 foundations, the concrete, the huge concrete. Is there
12 some -- something that refers specifically to them that I
13 missed?

14 THE WITNESS: Yeah. So the foundations are
15 taken into account. They are meant to be within the wind
16 turbine generator description, and the cost analysis,
17 both the draft and final documents, which are available
18 to you, mention the foundation specifically. So they are
19 taken into account.

20 COMMISSIONER HANSON: Thank you.

21 So when you talk about the wind turbine
22 generators you are including the concrete foundations?

23 THE WITNESS: Yes. That's correct.

24 COMMISSIONER HANSON: Thank you. I appreciate
25 that.

1 No further questions.

2 MS. CREMER: Commissioner Nelson, did you have
3 any questions?

4 COMMISSIONER NELSON: I do. And I appreciate
5 your being here. Thank you.

6 So let me go back to Commissioner Hanson's
7 question. Can you explain to me the process that's used
8 to take those foundations down to 4 feet below grade?

9 THE WITNESS: Yes. Machinery will be used to
10 remove the concrete part of the foundation down to a
11 depth of 4 feet. Those pieces of foundations will be
12 crushed and loaded into a transport truck, which will
13 take them to a disposal facility. And then the land will
14 be reclaimed with the appropriate soil.

15 So that's what basically happens with the
16 foundation.

17 COMMISSIONER NELSON: And so how is the
18 foundation broken up to get down to 4 feet? Are we
19 talking a big jackhammer? Help me understand that.

20 THE WITNESS: Yes. Usually pneumatic or
21 hydraulic hammers will be done.

22 COMMISSIONER NELSON: Thank you.

23 Let me go back to Ms. Mogen's question. You've
24 testified that your company is involved in a large
25 percentage of wind projects in the country, and yet

1 you've told her that you have no idea how many projects
2 have been decommissioned? Help me understand that.

3 THE WITNESS: Yes. So the reference I made to
4 the percentage, which is approximately 75 percent is the
5 project which goes to financing. So we're talking about
6 the development of the project, which is ground -- to
7 provide a reliable methodology and assumptions on the
8 decommissioning process itself and the associated costs.
9 Whether --

10 On the side of the decommissioning, I myself
11 have not made a research on how many wind farms have been
12 decommissioned in the United States.

13 COMMISSIONER NELSON: Thank you. That helps me
14 understand.

15 I think what I hear you saying is your role is
16 figuring out the theoretical part of it, but you've never
17 actually been involved in the actual decommissioning? Is
18 that accurate?

19 THE WITNESS: Let me add something to that. Me
20 as a professional, I don't have a -- I have not read or I
21 don't recall about a wind farm which has been
22 decommissioned. And DNV GL might and probably has been
23 involved in studies or actual processes for
24 decommissioning. I would have to make a research on that
25 to be able to tell you what DNV GL's experience is.

1 COMMISSIONER NELSON: Thank you. And I
2 appreciate your candor in that answer.

3 The last question I've got for you, if you do
4 not take into account salvage or resale value, what is
5 the cost of decommissioning per turbine?

6 THE WITNESS: I think I have the answer in the
7 final report.

8 COMMISSIONER NELSON: And I've seen that because
9 obviously I've read the report, but I just want to make
10 sure we're on the same page.

11 THE WITNESS: If you were not to take into
12 account salvage or resale, the cost as referenced in
13 Table 62 of the final cost analysis would be
14 \$16.9 million approximately for the entire wind farm.

15 And the fact that not even salvage would be
16 taken into account, in my professional experience and
17 opinion, would be an extremely conservative assumption
18 because of the potential for resale of materials as
19 steel, copper, and others.

20 COMMISSIONER NELSON: You're talking to an
21 extremely conservative guy so I get that point, but I
22 also agree with your point.

23 Without doing the actual calculation, would you
24 agree that the costs without salvage or resale would be
25 in excess of 200,000 per turbine?

1 THE WITNESS: I haven't made the math.

2 COMMISSIONER NELSON: Okay. No further
3 questions.

4 CHAIRWOMAN FIEGEN: Thank you.

5 A couple follow-up questions.

6 The depth of the decommissioning of the lines,
7 is it 4 feet? And then I see something about 3 and a
8 half feet. So the connector lines?

9 THE WITNESS: Can you please let me know where
10 you have seen the 3 and a half feet?

11 CHAIRWOMAN FIEGEN: Oh, man. I'm sorry. I
12 can't remember where it was. I read it a while ago, and
13 I thought you brought it up actually in your testimony.
14 So I didn't even -- you spoke -- I thought you spoke
15 about it actually, but I did read it.

16 THE WITNESS: I know -- I found what you
17 mentioned.

18 CHAIRWOMAN FIEGEN: Okay.

19 THE WITNESS: So in the final cost analysis as
20 submitted in Exhibit A4-2 there is mention to 3.5 feet
21 below grade. However, that document is not the most
22 current and accurate calculation that we have presented.

23 The numbers that represent the most accurate and
24 current calculation will be the ones in the memo, and
25 those refer to 4 feet below grade.

1 CHAIRWOMAN FIEGEN: All right. Thank you.

2 And below grade, is that original grade;
3 correct? Is that below original grade? It's not like
4 you build --

5 THE WITNESS: Oh, yeah. That's correct. Yes.

6 CHAIRWOMAN FIEGEN: Okay. Thank you.

7 And one more question. You may know the -- we
8 have read lots of wind applications and permits, and why
9 would you think that the estimates of decommissioning on
10 towers is so varied? I mean, we're talking a very large
11 percentage of a change.

12 THE WITNESS: Yes. It will depend on the
13 methodology of the study, as well as on the assumptions
14 of it.

15 One of the variables I can tell you has a large
16 influence on the cost, it's the crane cost, which is
17 addressed in our memo. But it also has to do with the
18 project infrastructure. The distribution of the wind
19 turbines along the site and how many cranes you need to
20 use for the decommissioning, as well as the length of the
21 transmission line will probably be the two most important
22 variables.

23 CHAIRWOMAN FIEGEN: Thank you.

24 So, you know, as a Commission we need to look
25 at, of course, decommissioning costs. And when you look

1 at theory versus actual, you know, we just have to make a
2 decision on what is the closest. Because it appears to
3 me we have all theory and really no actual experience out
4 there yet.

5 But thank you. Appreciate your testimony.

6 COMMISSIONER NELSON: If I could follow up,
7 we've already talked about kind of the dramatic
8 differences in decommissioning cost, all the way from if
9 you don't have any salvage or resale, the cost could be
10 well over 200,000 per turbine, to if you are able to have
11 an aggressive salvage and resale, it may even be a
12 positive figure. We've talked about that dramatic
13 difference.

14 Is it fair to say that where that final number
15 actually lies is going to be to a large part dependent
16 upon what salvage and resale values are 30 years from
17 now?

18 THE WITNESS: I'm looking at Table 6-1 in the
19 final cost analysis where salvage is estimated as
20 \$40.1 million approximately. So compared to the
21 16.9 million of costs of disassembly, removal, and
22 disposal, I agree, it's a big portion of it.

23 And if I may repeat, assuming that there will be
24 no salvage value at all for the scrap material, I don't
25 think it's realistic because the market for scrap

1 material as of today for steel, copper, aluminum, and
2 others, it's a huge market that moves millions and
3 millions of dollars, regardless of the source of the
4 materials as of today.

5 COMMISSIONER NELSON: Would you agree that that
6 scrap market varies dramatically?

7 THE WITNESS: Yes. That's true. And it's
8 something that we mentioned in that report as well.

9 COMMISSIONER NELSON: Thank you.

10 MS. CREMER: Do you have any redirect, Dakota
11 Range?

12 MS. SMITH: Just one.

13 REDIRECT EXAMINATION

14 BY MS. SMITH:

15 Q. So we were talking a bit about theoretical versus
16 actual. My understanding, based on your prior testimony,
17 is that DNV GL does use actual cost for construction as
18 the basis for its decommissioning cost. Am I
19 understanding your testimony correctly?

20 A. Yes. That's correct.

21 So from this large involvement that we have in wind
22 farms that are under development process we have the
23 insight on the process and the costs. So our
24 decommissioning assessment is based on that data, which
25 is very wide or very abundant, and it's very reliable

1 because of the size of the database that we use for the
2 estimates.

3 Q. And you indicated that decommissioning is similar to
4 construction, only in the reverse?

5 A. Yes. That's correct. So the process, it's
6 extremely similar. So making the assumption that we --
7 even though it's a theoretical study, in practice the
8 process will be a reverse construction. It's a very
9 reasonable assumption in our opinion.

10 MS. SMITH: I have no further questions.

11 MS. CREMER: Staff, do you have any recross?

12 MS. EDWARDS: No.

13 MS. CREMER: And, Ms. Kaaz, did you have any
14 recross?

15 Ms. Mogen.

16 MS. KAAZ: I have one.

17 MS. CREMER: Oh, okay.

18 RECROSS-EXAMINATION

19 BY MS. KAAZ:

20 Q. Are the blades recyclable?

21 A. I would say that there is still debate in the
22 industry about the process for recycling the blades.

23 Q. Are they recycled in America? The blades?

24 A. The decommissioning study that we have prepared has
25 not looked into the recycling of facilities and

1 capabilities for blades in North America.

2 MS. KAAZ: Thank you. That's it.

3 MS. MOGEN: I'm good. Thank you.

4 COMMISSIONER NELSON: If I could just clarify
5 the answer, and so then the assumption of the study is
6 that the blades are going to be -- go into a landfill;
7 correct?

8 THE WITNESS: That's correct.

9 COMMISSIONER NELSON: Thank you.

10 MS. CREMER: Dakota Range, did you have any
11 further?

12 MS. SMITH: No. Nothing further.

13 MS. CREMER: Thank you. You may step down.

14 (The witness is excused.)

15 MS. CREMER: Would this be a good time for a
16 break? How long would your next witness be? Do you
17 know?

18 MS. SMITH: I think it would be a good time for
19 a break.

20 MS. CREMER: Okay. From my angle, it looks like
21 it says 3 o'clock. So 3:15.

22 Thank you.

23 (A short recess is taken.)

24 MS. CREMER: I'll call the hearing back into
25 session following that short recess.

1 Dakota Range, you may continue.

2 MS. SMITH: We will call Mark Mauersberger.

3 Mark Mauersberger,
4 called as a witness, being first duly sworn in the above
5 cause, testified under oath as follows:

6 DIRECT EXAMINATION

7 BY MS. SMITH:

8 Q. Mr. Mauersberger, could you please introduce
9 yourself to the Commission.

10 A. My name is Mark Mauersberger. I'm the senior
11 project developer for Dakota Range Wind Farm.

12 Q. And did you file Direct Testimony in this matter
13 along with the Application?

14 A. Yes.

15 Q. And is that Prefiled Direct Testimony in Exhibits A9
16 and A9-1 through A9-2?

17 A. Yes. I believe so.

18 Apologize.

19 Q. That's all right. I believe it's -- it may be in
20 the second binder.

21 A. Got it.

22 Q. And did you also file Rebuttal Testimony on May 21,
23 2018?

24 A. Yes.

25 Q. And is that Rebuttal Testimony presented in

1 Exhibits A10 and A10-1?

2 A. Yes.

3 Q. And can you provide a brief summary of the topics
4 that were covered in your Direct Testimony and your
5 Rebuttal Testimony?

6 A. The topics ranged from the lighting that we employed
7 all the way to testimony I provided at the public hearing
8 and everything in between, sort of a broad overview.

9 Q. So a broad overview of the project and its
10 development?

11 A. Correct.

12 Q. And can you discuss briefly Dakota Range's community
13 outreach efforts?

14 A. Yes. So as noted in the testimony, we employed
15 several outreach efforts that included not only kitchen
16 table meetings with individual landowners and
17 policymakers but also large community meetings before for
18 the landowners specifically and for the community in
19 general.

20 Q. And can you discuss any discussions you've had with
21 Ms. Kaaz?

22 A. I really didn't know Ms. Kaaz. She had came to the
23 hearing for Codington County for the CUP. At that time
24 she seemed to be seeking information and was opposed to
25 the project. That was my perception anyway.

1 And then subsequent to that, Nate, my junior
2 developer, as well as some of my team members, have
3 reached out to her on numerous occasions to see if
4 there's any information we could provide her with
5 regarding the project.

6 Q. And can you discuss any outreach you've had with
7 Ms. Mogen?

8 A. I don't know Ms. Mogen very well.

9 As far as Ms. Kaaz was concerned, some of the team
10 members, like I mentioned, had reached out to her after
11 her testimony at the CUP hearing in Codington, and also
12 one of my teammates, Dave Lau, knows her husband.

13 And as far as Ms. Mogen is concerned, one of my team
14 members, David Lau, reached out to an acquaintance of
15 Ms. Mogen and had attempted to also provide outreach, and
16 according to Dave the invitation went unrequited.

17 Q. And do you have any additions or corrections to your
18 testimony?

19 A. No, I don't.

20 Q. I will ask it this way. Do you have an update on
21 the road use agreement for Grant County?

22 A. Yes. We've received the Grant County Road Use
23 Agreement and the Road Use Agreement for Codington is
24 under review by the county attorney.

25 Q. And when you say you've received, you mean that

1 Grant County Commissioners have approved the Road Use
2 Agreement?

3 A. Correct.

4 Q. And with the exception of that update, if I were to
5 ask you the questions in your Direct and Rebuttal
6 Testimony, would your answers be the same?

7 A. Yes, they would.

8 MS. SMITH: I have no further questions and
9 offer Mr. Mauersberger for cross-examination.

10 MS. CREMER: Thank you.

11 Staff.

12 CROSS-EXAMINATION

13 BY MS. EDWARDS:

14 Q. Thank you, Mr. Mauersberger. Are you familiar with
15 the aircraft detection lighting system?

16 A. Not -- I haven't been involved in a project that has
17 employed them, but, yes, I am familiar.

18 Q. Is Apex planning on employing it for this project?

19 A. No, they are not.

20 Q. And why not?

21 A. It wasn't a requirement of the project primarily.
22 But also in addition it's a newer technology, and we
23 wanted to use the technology that was tried and true. In
24 addition, I think there's only one of those systems
25 deployed, and there's also -- because it was a newer

1 technology and uncertain how reliable it is, there were
2 liability concerns as well.

3 Q. Thank you.

4 And turning your attention to page 5 of your
5 prefiled testimony, you stated that, "Xcel will
6 assume" -- sorry. Got tongue-tied there. "Xcel will
7 assume responsibility for assisting Dakota Range with
8 completing the project development, including
9 construction and operation of the project;" correct?

10 A. Correct. We entered into an agreement for Xcel to
11 purchase the project in September.

12 Q. So would it be correct then that Xcel will also
13 assume responsibility for decommissioning the project?

14 A. If they're the eventual buyer, correct.

15 Q. So then it would be your understanding that Xcel
16 and/or its ratepayers will be responsible for the
17 associated costs of decommissioning then?

18 A. I'm unaware if the ratepayers would have to endure
19 that cost or whether it was built into their modeling.

20 MS. EDWARDS: No further questions. Thank you.

21 THE WITNESS: Thank you.

22 MS. CREMER: Ms. Mogen.

23 MS. MOGEN: Thank you.

24

25

CROSS-EXAMINATION

BY MS. MOGEN:

Q. Mr. Mauersberger, what considerations did Dakota Range use in siting the turbines for this project?

A. Considerations?

Q. Uh-huh.

A. Specifically?

Q. County ordinances.

A. So we reviewed the county ordinance, and we met all of the setbacks, met and exceeded all the setbacks for both counties involved in this project in Grant and Codington.

Q. Do you have any other considerations that you used?

A. Certainly. We used a variety of different considerations. We avoided areas of cultural sensitivity. We performed avian studies. We performed archaeological studies. And, of course, all the studies from the experts that are here today.

Q. On Exhibit A16?

A. I got it.

Q. Okay. This is a request from me, a Data Request, 1 through 5. If you would just read one. The answers -- if you stipulate all the answers are the same, just read No. 1.

A. "Applicants object to this request as overly broad.

1 In addition, this request seeks information that is
2 confidential and/or trade secret."

3 Q. Oh. Excuse me. Let's -- No. 2. 1-2. I'm sorry.

4 A. "This information is not available to the
5 Applicants, and manuals like this are typically
6 designated as confidential and/or trade secrets by the
7 turbine manufacturer."

8 Q. And that question 1 through 5 was asking for the
9 owners manual, the safety manual, the operators manual,
10 and the repair manual?

11 A. Correct.

12 Q. So do you know the safety setback of a turbine?

13 A. We engaged with Vestas, and they said that there's
14 no specific setback that they employ or recommend.

15 Q. Do you know a stay away zone for emergency workers?

16 A. I actually asked the folks on our O&M team at Apex
17 and Xcel, and they said they don't have a standardized
18 setback zone.

19 Q. Do you know the assessed risk zone by Vestas or
20 their insurance company?

21 A. I don't have that information, no.

22 Q. Can you guarantee that people will be safe around
23 these turbines?

24 A. I don't know of any issues of citizens around
25 turbines being injured in the 10 years I've been in

1 energy that are -- I mean, obviously you have workmen,
2 employees that work on the turbines, and they have, you
3 know everyday occurrences where they may get injured kind
4 of in their due diligence in working in a wind farm. But
5 I'm not aware of any issues with citizens being injured
6 by wind turbines.

7 Q. So you do not know a safety zone for siting of the
8 turbine to make sure they're not too close to the public?

9 A. I don't think there's a "standardized" safety zone,
10 but the ordinance call for setbacks, as well as state law
11 in South Dakota.

12 Q. Was elevation a consideration in siting the
13 turbines?

14 A. To the extent that you generally get better -- more
15 energetic wind the higher up you go, I'm sure where they
16 sited the turbines were in the windier areas based on the
17 data we collected from the met towers.

18 Q. So siting the turbines was based on county ordinance
19 and wind and not the public who will be living around
20 them?

21 A. So both counties have a very robust and transparent
22 review process when we're building these projects and
23 going for our county level permits. And at the Grant
24 County meeting we didn't have any voiced opposition. And
25 other than Ms. Kaaz asking for information and another

1 citizen asking about I think environmental or hunting or
2 something like that, we didn't have any active opposition
3 at the CUP level that I was aware of.

4 Q. Are you aware of a Cradle -- excuse me.

5 Did Dakota Range do a cradle to grave carbon
6 footprint study for this project?

7 A. Not that I'm aware of.

8 MS. MOGEN: Thank you.

9 THE WITNESS: You're welcome.

10 MS. CREMER: Ms. Kaaz.

11 CROSS-EXAMINATION

12 BY MS. KAAZ:

13 Q. What date did Nate give me a call or contact me?

14 A. I reached out to him recently, and he said he talked
15 to you at the meeting in Codington, and then shortly
16 thereafter he called you twice and left messages.

17 Q. Yes. He called once but my husband was not
18 available and he never called back. I was wondering what
19 happened to him.

20 As far as David Lau, when did he start contacting
21 landowners and discussing the project? What date was
22 that or year?

23 A. When I took over the project in February of 2016
24 it's pretty much a prerequisite that we're actively
25 involved in the community in reaching out to folks. So

1 it would be any time from there on I was managing the
2 project that we had regular contact and engagement with
3 the landowners.

4 Q. Did he offer everyone the community benefit plan
5 thing you were talking about earlier? I'm sorry.
6 Compensation.

7 A. If they were a parcel that we identified as a good
8 wind regime and didn't have obstruction that would
9 disallow us from placing a turbine there, such as a
10 nearby road or, you know, areas of cultural sensitivity,
11 fly paths of certain types of avian species from our
12 preliminary desktop studies, then we would offer
13 generally a lease.

14 Q. I'm trying to think of how to say this.

15 So because I own 15 acres on my corner and my
16 neighbor two miles down -- and we'll get to him where
17 he's located when we look at a map -- he was talked to
18 several years ago, which we just learned this week, why
19 was he talked to and not me when you visited with all the
20 surrounding landowners?

21 A. So, as I mentioned, I came on the project in 2016 so
22 I'm not familiar with discussions that may have happened
23 several years ago.

24 But as far as you are concerned, if it was a parcel
25 that we needed for the project, we would generally offer

1 a lease or a good neighbor agreement which would allow
2 cabling across the land. From what I understand, that
3 was offered to you.

4 Q. No.

5 A. That was my understanding. Also there's other
6 variables such as in certain circumstances there's
7 landowners that decline to participate, and some
8 landowners may be kind of on an island and not able to
9 connect to other parcels so that we can develop a
10 cohesive project.

11 But the size of your parcel -- the size of the
12 parcel is immaterial as long as it provides connectivity
13 within the project.

14 Q. Yeah. So right now I still have turbines on three
15 sides of me with one kitty-corner. So that's why I asked
16 that question.

17 And I'm not asking for a monetary question. The
18 reason I'm asking is due to just the effects of not
19 knowing and picking and choosing which people get talked
20 to about a project and others not having any notice.

21 Before the Conditional Use Permit I received my -- a
22 certified letter in the mail that was --

23 MS. SMITH: Objection. This is testimony. I'm
24 sorry.

25 MS. KAAZ: Oh, I apologize. I'm sorry.

1 Q. I'm just stating when you say there was no
2 opposition at that meeting that was the first time I had
3 heard about the project. I was not planning on speaking
4 that night so I did not --

5 MS. SMITH: Objection. I'm sorry. This is
6 testimony. If we can just wait until Ms. Kaaz is on the
7 stand, she'll have an opportunity to speak to that.

8 MS. CREMER: Yes. If you have a particular
9 question that you want to ask him about that meeting, you
10 can do that.

11 MS. KAAZ: No. I don't think so because he said
12 he was not at that meeting. So it's irrelevant. So I'll
13 stop.

14 Thank you.

15 MS. CREMER: Commissioner Nelson.

16 COMMISSIONER NELSON: Thank you. Thanks for
17 being here.

18 THE WITNESS: Thank you.

19 COMMISSIONER NELSON: As you were introducing
20 yourself do I take it that you're the top guy in relation
21 to this project?

22 THE WITNESS: I'm responsible for the project,
23 correct.

24 COMMISSIONER NELSON: That answer works for me.
25 That's what I'm looking for, the guy responsible.

1 My understanding is obviously we're here in 2018
2 applying for a permit, but this thing is not sited for
3 operation until 2021. That's an unusually long time
4 frame.

5 Help me understand why we're here today when
6 this is three years away.

7 THE WITNESS: Sure. That's a good question.

8 So there's actually a couple variables in play
9 here. Number one being our goal was to interconnect on
10 the Big Stone Ellendale line, and that line is not slated
11 to be complete until the third quarter of 2019.

12 So construction would feasibly happen in the
13 spring of 2020 and commissioning probably 2021 based on
14 Xcel's time line. But it could be built earlier
15 hypothetically.

16 COMMISSIONER NELSON: Thank you.

17 Recently filed was Exhibit A15-3, the
18 constraints map. And I want to say, first of all, thank
19 you. I appreciate your filing that. That was helpful.

20 Are you the guy to ask questions about that or
21 Ms. Gunderson?

22 THE WITNESS: Ms. Gunderson would handle those.

23 COMMISSIONER NELSON: Perfect.

24 In your earlier cross-examination there was
25 discussion about the aircraft detection lighting system,

1 and you indicated one of the reasons that you didn't look
2 at that system was concerns about reliability.

3 Do you believe the FAA would approve use of that
4 system if there were reliability concerns?

5 THE WITNESS: It's hard to say. It's a newer
6 technology so theoretically they may believe that the
7 system is durable and reliable, but we wanted to use a
8 system that -- wanted to employ a system that has a
9 pretty long track record.

10 COMMISSIONER NELSON: And so you've got
11 reliability concerns even though the FAA doesn't; is that
12 correct?

13 THE WITNESS: Well, as I mentioned earlier,
14 there's only one of those systems deployed currently, and
15 we wanted to use a system that has a longer track record.

16 COMMISSIONER NELSON: I want to go back to the
17 questions that Ms. Mogen was asking about this issue of
18 the safety zones as it relates or it has been alleged to
19 have been laid out in Vestas manuals. And I believe in
20 some of either the commentary that we've gotten, there's
21 this allegation that some of those manuals contain a
22 1,640 foot safety zone.

23 This issue is on the table. For me it's a
24 significant issue. In your responses to Ms. Mogen you've
25 done everything you can to sweep it under the rug. I'm

1 going to tell you because it's on our table we can't
2 sweep it under the rug. We have to deal with that issue.

3 I find it hard to believe that you all are
4 considering purchasing 72 of these turbines and you
5 haven't had access to the manuals for those turbines. Is
6 that your testimony?

7 THE WITNESS: So it's not my intent,
8 Commissioner, to sweep anything under the rug. I'm
9 trying to answer your questions to the best of my
10 knowledge.

11 As far as that particular turbine is concerned,
12 that was a turbine that was brought to the table by Xcel,
13 our partner in this project. So they're going to be
14 handling the construction, and they're handling the
15 TSA -- or the turbine and acquisition agreement. So
16 they're going to be handling that portion of the
17 transaction so I don't have any connectivity to that
18 technology and/or the moving parts.

19 COMMISSIONER NELSON: Okay. And I appreciate
20 that, and I appreciate understanding that relationship
21 and while -- apparently the turbine vendor is kind of one
22 off of where you're sitting at in this whole process.

23 Let me just say this both for you and for your
24 counsel. This is an issue that I need to have resolved
25 in my mind. And whatever you all need to do to get me a

1 copy of that manual so that I can resolve is this true or
2 is it not, and if it is true, how do we have to move
3 forward under that constraint, I need that.

4 And I absolutely understand your response that
5 those things are typically trade secrets and
6 confidential. I get that. It can certainly be filed
7 with us confidentially. But somehow we're going to need
8 to get that so that we can deal with that issue one way
9 or the other.

10 THE WITNESS: And I understand that,
11 Commissioner. And we actually asked for those manuals,
12 and that response was prompted off the answer we were
13 given.

14 COMMISSIONER NELSON: And I appreciate that, and
15 I appreciate your candor. And I hope you all can
16 appreciate the position I'm in in needing to deal with
17 that particular allegation.

18 That, I think, is all the questions I've got.
19 Thank you.

20 THE WITNESS: Thank you.

21 MS. CREMER: Commissioner Hanson.

22 COMMISSIONER HANSON: Thank you. Good
23 afternoon.

24 THE WITNESS: Good afternoon.

25 COMMISSIONER HANSON: You're the project manager

1 and, as was pointed out, you know everything. You've got
2 it --

3 THE WITNESS: My wife would beg to differ.

4 COMMISSIONER HANSON: Well, a number of us are
5 in the same boat.

6 CHAIRWOMAN FIEGEN: I have her phone number.

7 COMMISSIONER HANSON: On page -- well, I don't
8 know that you need to turn to the page. It's just to
9 remind me as I look through the information. But I'll
10 refer to it.

11 Page 5 of your testimony. Asking if you
12 explored different alternatives for expanding the site,
13 and you state that expansion needed to occur within
14 approximately 5 to 7 miles of the initial site but that
15 competing wind farm to the south, the east, the north,
16 U.S. Fish & Wildlife Service grassland easements in the
17 north and the east, and diminishing wind speeds to the
18 west -- it sounds like there's a lot of wind turbines in
19 the area.

20 THE WITNESS: So south of our location is the
21 Crowned Ridge project owned by Next Era and also
22 purchased by Xcel. I believe they did their deal last
23 summer. And to the east of us was a project called
24 Cattle Ridge, and that was Geronimo's project, which I
25 believe they sold late last year to Next Era.

1 COMMISSIONER HANSON: Did you do any analysis of
2 the cumulative effect on the environment? And I
3 appreciate that there's another person who will be
4 testifying to this. However, we'll give them a heads up.

5 Cumulative analysis -- or an analysis of the
6 cumulative effect of all of these wind turbines? Do you
7 know how many approximately there are that are pursuing a
8 number of turbines for this area?

9 THE WITNESS: I would defer environmental
10 questions to our vice president of environmental, which
11 would be Dave Phillips.

12 COMMISSIONER HANSON: Okay. So your wife is
13 correct.

14 THE WITNESS: Correct. Always is.

15 COMMISSIONER HANSON: I appreciate the offer of
16 the two-mile setback from the lake. I think that's
17 great.

18 Did you review testimony and pursuits by the
19 Commission in regards to the Crocker Wind Farm?

20 THE WITNESS: I actually was in attendance for
21 both of the Crocker meetings, as well as the Deuel County
22 meetings where they debated setbacks from lakes.

23 COMMISSIONER HANSON: I don't recall what the
24 setback was in Crocker for the lake. Do you?

25 THE WITNESS: No, I don't.

1 COMMISSIONER HANSON: You speak of -- on page 8
2 and 9 I appreciate the information that was provided
3 there regarding spacing and the county requirements.
4 That makes it much more clear for us.

5 What's the rotor diameter on one of the turbines
6 that you're pursuing?

7 THE WITNESS: I believe one of the lay lengths
8 is approximately 220 feet.

9 COMMISSIONER HANSON: Okay. It refers to no
10 closer than three rotor diameters. So it's talking about
11 660 feet then?

12 THE WITNESS: Give or take.

13 COMMISSIONER HANSON: So is that the length of
14 one blade or the length of --

15 THE WITNESS: The length of one blade.

16 COMMISSIONER HANSON: Okay. So it's the
17 diameter. Okay. Thank you.

18 In Mr. Thurber's testimony he has a number of
19 questions. I believe you answered all of them, as I'm
20 jumping back and forth.

21 Do you recall the Thurber concerns that were
22 expressed, and do you feel you answered all of those
23 questions?

24 THE WITNESS: Could you clarify a bit regarding
25 his concern?

1 COMMISSIONER HANSON: Well, there were several.
2 I have them marked, but I -- and you did refer to them as
3 I went through the process, but I wasn't able to check
4 back and forth. I think that's probably a question I
5 should save for Mr. Thurber.

6 THE WITNESS: Okay.

7 COMMISSIONER HANSON: He would probably know
8 that better than you even.

9 Is there any -- I'll refer to it as farmland,
10 other than grassland. And I'm concerned because on
11 page 12 you state that the collector lines would be
12 installed in a trench that was 30 inches below the
13 ground.

14 I appreciate the fact that they're underground.
15 Is this all grassland? Is there any farmland, any
16 tillable property there?

17 THE WITNESS: So it's all on private land and
18 it's a mixture of tillable and pastureland and the
19 calculations are in the testimony.

20 As far as grasslands are concerned, we did our
21 very best to avoid impacts of grassland and wetlands.

22 COMMISSIONER HANSON: At this juncture I'm
23 concerned more from a standpoint of tillable property.
24 The 30 inches, a little erosion all the sudden is
25 12 inches, 10 inches, and I'm wondering if 30 inches --

1 in your experience have you had any problem in tillable
2 property with having 30 inches?

3 THE WITNESS: Generally not. Because the
4 underground cabling is usually collocated to the road so
5 there's not generally any farming activity going on on
6 the road.

7 COMMISSIONER HANSON: Thank you.

8 THE WITNESS: Welcome.

9 COMMISSIONER HANSON: The O&M facility is
10 apparently a permanent facility.

11 THE WITNESS: Correct.

12 COMMISSIONER HANSON: On page 14 you refer to
13 the inspections of the turbine. And if this is an
14 operation and maintenance, I don't know that I really
15 need to know about it, but as I read it, I saw that each
16 turbine is going to be examined twice a year, which is
17 certainly pertinent to what we're looking at.

18 But you refer to three technicians for 10 hours
19 and another inspection of 36 hours with three
20 technicians. I forget. You're going to have 10
21 full-time personnel. 72 turbines. Do these folks work
22 70-hour weeks or -- 70-hour weeks or what?

23 THE WITNESS: Well, there's a mixture of
24 activities. You know, there could be more employees.
25 Some will work part time. Some will work full time. But

1 their job description is -- can range from checking the
2 torque on the bolts to inspecting the blades to make sure
3 there's no cracks or deficits.

4 COMMISSIONER HANSON: It just seemed like it was
5 a lot of work for the number of folks, that you could
6 have told me that there were more people working on the
7 project.

8 THE WITNESS: There could be.

9 COMMISSIONER HANSON: Too late.

10 Well, again, I appreciate your information that
11 you provided for us. Thank you for your testimony.

12 THE WITNESS: Thank you.

13 CHAIRWOMAN FIEGEN: Thank you. And thank you
14 certainly for being here today.

15 So before redirect, I'm going to go back to
16 Commissioner Nelson's question on aircraft lighting
17 detection system. These turbines are close to the
18 interstate?

19 THE WITNESS: Not very close. They're -- we
20 obviously have the setback per ordinance and state rules
21 as well.

22 CHAIRWOMAN FIEGEN: Like how close? Will we be
23 able to see them from the interstate?

24 THE WITNESS: Yes.

25 CHAIRWOMAN FIEGEN: Looks like it to me. When I

1 look at the map it looks like they're relatively close to
2 the interstate.

3 And then Commissioner Nelson also asked about
4 the 2021, when this would probably go online. So
5 wouldn't there be several more wind farms that will have
6 the aircraft detection system before 2021?

7 THE WITNESS: I am not certain.

8 CHAIRWOMAN FIEGEN: So you know Crocker will.
9 So there's two.

10 THE WITNESS: They've agreed to that system,
11 that I'm aware. Yeah.

12 CHAIRWOMAN FIEGEN: So -- okay. I'm going to
13 stop there.

14 Just a question. I think it was Ms. Mogen that
15 asked about that safety zone, and Commissioner Nelson hit
16 a lot of that safety zone. But one of the questions she
17 talked about was a two-story building. Is there any
18 restrictions?

19 You kind of said in your beginning responses to
20 Ms. Smith that there's no restriction to the
21 nonparticipating landowner; is that correct?

22 THE WITNESS: Correct.

23 CHAIRWOMAN FIEGEN: Okay. Also Commissioner
24 Hanson asked you about the lake and that voluntary
25 two-mile setback. But if you look at that two-mile

1 setback and do a circle -- did the testimony say that you
2 had leases to all of that area, or was it like
3 approximately less than 100 acres that you have leases
4 to?

5 THE WITNESS: I'm not sure what the exact number
6 is, but we did have leases in and around the lake.

7 CHAIRWOMAN FIEGEN: So around 68 acres,
8 according -- subject to check?

9 THE WITNESS: I'm not absolutely sure what the
10 exact number was. I think it was considerably more than
11 that that was under lease.

12 CHAIRWOMAN FIEGEN: Oh.

13 THE WITNESS: But what was eventually kept, I
14 don't know what that final number was.

15 CHAIRWOMAN FIEGEN: Okay. I could have
16 certainly read that wrong.

17 The ownership of Xcel, I have listened to you a
18 couple times today in response to Ms. Smith and then I
19 believe it was Commissioner Nelson. So that's going to
20 be really important to me when I look at decommissioning.

21 And so is Xcel Energy going to own this, or are
22 we going to have to put some type of condition if they
23 don't own it, this will be the decommissioning; if Xcel
24 Energy owns it, another scenario will be the
25 decommissioning?

1 THE WITNESS: It's our understanding and -- the
2 way the project is progressing that Xcel will be the
3 owner.

4 CHAIRWOMAN FIEGEN: So this Commission possibly
5 would need a condition in case they're not? In case I'm
6 looking at decommissioning it in a couple different ways.

7 THE WITNESS: Well, ultimately, Commissioner,
8 regardless of who buys it, it's going to be Dakota
9 Range's responsibility.

10 CHAIRWOMAN FIEGEN: Expense-wise?

11 THE WITNESS: Yeah. It's part of our agreement
12 with the county and with the landowners to decommission
13 the project, and that will flow through the eventual
14 owner who will be purchasing the project.

15 CHAIRWOMAN FIEGEN: Okay. So I wasn't listening
16 fast enough.

17 Let's say Xcel Energy purchases the wind farm.
18 Who's responsible for the decommissioning? Who will pay
19 that expense in 20 or 30 years from now? Will Xcel
20 Energy, the owner, if they still own it, or will it be
21 Dakota Range, the developer?

22 THE WITNESS: The owner of the project in your
23 scenario, Xcel Energy, would be responsible. They're
24 responsible to not only meet that condition but all the
25 other terms in the lease.

1 CHAIRWOMAN FIEGEN: Okay. So my statement
2 previously stands. Decommissioning will look different
3 for me as a condition if Xcel Energy owns it versus a
4 developer.

5 You also talk about in your testimony -- you put
6 500 feet as a minor change, but you don't really support
7 that statement in the record. Tell me how you came up
8 with 500 feet.

9 THE WITNESS: Yeah. So there wasn't a metric
10 applied -- you talked about material shifts, I believe,
11 and we had some meetings with Staff and they had
12 mentioned -- we talked about, you know, how to handle
13 shifts in case we run into subsoil conditions or areas of
14 cultural sensitivity. And so we applied that number in
15 the absence of an actual metric.

16 CHAIRWOMAN FIEGEN: Okay. Thank you.

17 I think it's in your prefiled testimony you
18 have -- and I know you've corrected this, but just so the
19 record reflects, the Waverly School District and the
20 Summit School Districts, those school taxes will diminish
21 over a period of time; correct? And that will go to the
22 State?

23 THE WITNESS: That's currently South Dakota Law.
24 Correct.

25 CHAIRWOMAN FIEGEN: Okay. Thank you.

1 And also I was reading your Rebuttal Testimony
2 on May 21 that you submitted, and you talked about
3 multiple sets of requests were pending at the same time,
4 and it was a very complicated process to do data
5 requests; correct?

6 THE WITNESS: It was -- it took some effort,
7 correct.

8 CHAIRWOMAN FIEGEN: And so a longer period of
9 discovery time would be beneficial for all parties;
10 correct?

11 THE WITNESS: I'm not certain if a longer period
12 of time would be needed. It's just the interval of
13 requests at a certain point came one after the other so
14 kind of the 10-day period blended together, if you
15 understand what I'm saying.

16 CHAIRWOMAN FIEGEN: Yeah. And so it looks like
17 to me when I look at your testimony on May 21, yeah, it's
18 a complicated effort to get a lot of data requests and,
19 yeah, they kind of stack up on each other.

20 So a longer period of discovery time would help
21 that effort to become less complicated; correct?

22 THE WITNESS: No.

23 CHAIRWOMAN FIEGEN: Okay. Please explain that
24 to me.

25 THE WITNESS: So the six-month period of time I

1 think is more than adequate. It's just a matter of the
2 questions that are asked, if that information is readily
3 available to us versus information that we might have to
4 seek out, and how that information -- or how those
5 questions are given to us. Whether they're all in one
6 cluster or whether they're spread out over time also
7 helps us manage the process better.

8 CHAIRWOMAN FIEGEN: Yeah. And when they're
9 spread out over time, yeah, that's a larger discovery
10 period.

11 Thank you.

12 MS. CREMER: Dakota Range, did you have any
13 redirect?

14 MS. SMITH: No, I don't.

15 MS. CREMER: And, Staff, do you have any
16 redirect based on Commissioner questions?

17 MS. EDWARDS: Thank you. Just one. And
18 hopefully this is based off of Commissioner questions. I
19 don't remember for sure.

20 RECROSS-EXAMINATION

21 BY MS. EDWARDS:

22 Q. Is my understanding correct that rural residences
23 with small acreages or without a need for a lease were
24 not offered to believe included in the community
25 compensation formula?

1 A. No. We value all landowners that are in our project
2 footprint and all parcels that are within our project
3 footprint because if we don't include them, it creates
4 additional setbacks to the project.

5 MS. EDWARDS: Thank you.

6 MS. CREMER: Ms. Mogen.

7 RECROSS-EXAMINATION

8 BY MS. MOGEN:

9 Q. Commissioner Hanson had asked about the cumulative
10 effects, and you had mentioned some to the south and to
11 the east.

12 Has Dakota Range not been planning Dakota Range III
13 and IV to the north and west?

14 A. That's a separate project.

15 Q. But it would be in the cumulative effects?

16 A. It would be in a different region than this
17 particular project. So it's not an expansion of this
18 project. It's a different project.

19 Q. As is Cattle Ridge and Crowned Ridge?

20 A. Correct.

21 Q. For the safety zone that Commissioner Nelson brought
22 up and people living in it, do you live within 1,000 feet
23 of a 485-foot power plant?

24 A. No.

25 MS. MOGEN: Thank you.

1 MS. CREMER: Ms. Kaaz.

2 MS. KAAZ: I have nothing.

3 MS. CREMER: Chair Fiegen.

4 CHAIRWOMAN FIEGEN: You know, I should have
5 asked this question before so I'm sorry I didn't get to
6 my final note.

7 Ms. Kaaz, which is one of our Intervenors, has
8 three wind turbines surrounding her acreage. It appears
9 to me -- oh, man. There were two charts. The 1,200, was
10 that from her residence, or was that --

11 Okay. So everything's about 2,000 or more from
12 her resident; is that correct?

13 THE WITNESS: From her residence, correct.

14 CHAIRWOMAN FIEGEN: I just heard a few things
15 and we'll get to hear from her but I might not be able to
16 ask you the questions so I'm just going to have to ask
17 you some, although she hasn't been on the stand yet.

18 So when a nonparticipating landowner is
19 surrounded it appears to me there's a mixed message to
20 the Commissioners on how they were contacted, how many
21 times they were contacted, if it was direct contact, if
22 it was left to message.

23 I just feel like I'm in nearly a hearsay zone on
24 what are the facts on how a nonparticipating landowner
25 was treated by a project developer and if they were given

1 all the opportunities that everybody else was. So can
2 you give this Commissioner some comfort that the
3 developer -- the facts of how that all took place.

4 THE WITNESS: Certainly.

5 So when we're laying out the project we have
6 preliminary layouts, but we don't have definitive layouts
7 because there's a lot of due diligence that has to be
8 done. So as we lay out the footprint we try to engage
9 with as many landowners as possible, as I mentioned
10 earlier in my testimony, whether it's a kitchen table
11 meeting or a community meeting.

12 In doing so there has to be a border of the
13 project. I mean, you eventually do your layout. So if
14 someone's just outside of that border based on our
15 layout, they may or may not be included but may be within
16 that 2,000-foot proximity.

17 It's important to note, though, the county regs
18 call for a 1,000-foot setback from residences, and we're
19 double the rules. The closest turbine, in fact, is
20 double the distance of the county rules to Ms. Kaaz's
21 residence.

22 CHAIRWOMAN FIEGEN: And just to follow up with
23 that, so I don't know the offering of community impact
24 and how you work with nonparticipating landowners. Can
25 you help me understand that?

1 THE WITNESS: Sure. As we're laying out the
2 footprint we decide, you know, what land we can connect
3 to. As I mentioned earlier, sometimes there may be land
4 as evidenced in our layout of landowners interior of the
5 project that, you know, being part of the wind farm just
6 isn't for them. It's not necessarily they are against
7 the project; it's just something that -- I don't want to
8 farm around it is the common refrain.

9 So in those instances we try to get other
10 landowners to participate with either a straight wind
11 lease or a good neighbor agreement, which would allow us
12 to cable across their property without installing
13 structures. But, ultimately, you get to a point where
14 your project footprint is complete and there may be
15 landowners on the periphery and when you're dealing with
16 those landowners you try to -- as you're defining the
17 footprint you try to adhere to all the rules that are in
18 place for those particular counties.

19 And, as I mentioned earlier, I think we meet or
20 exceed those rules. And there has to be an edge on the
21 project. There wasn't any mal-intent to put turbines in
22 proximity to any particular landowner. It's the way the
23 layout was finalized.

24 CHAIRWOMAN FIEGEN: Thank you.

25 THE WITNESS: You're welcome.

1 COMMISSIONER NELSON: I'm going to need to
2 follow up on that last line of questioning.

3 So, obviously, Ms. Kaaz's property is not on the
4 edge. It's surrounded by property that's part of this
5 project, participating properties. As you were looking
6 at the map and you come across her tract, 15 acres, it's
7 a residence. It's got some trees. You don't want to put
8 a tower there. You aren't going to want to cable through
9 there.

10 So do you offer her anything?

11 THE WITNESS: Sure. We have, like I mentioned
12 earlier, the metric that is for the community payment if
13 she didn't want to host a turbine. And there are
14 instances where turbines can be placed on smaller parcels
15 in projects that I've worked on, but we don't disclude
16 them from consideration because I mentioned earlier we'll
17 have to set back from them eventually. So we try to make
18 the project as cohesive as possible.

19 COMMISSIONER NELSON: So that was, in fact,
20 offered to her.

21 THE WITNESS: It's my understanding there was, I
22 believe, a good neighbor agreement offered.

23 COMMISSIONER NELSON: Thank you.

24 THE WITNESS: You're welcome.

25 MS. CREMER: Did you have any redirect?

1 MS. SMITH: I do not.

2 MS. CREMER: Thank you. You may step down.

3 THE WITNESS: Thank you.

4 (The witness is excused.)

5 MS. CREMER: And then it's my understanding
6 Staff was going to call a witness; is that correct?

7 MS. SMITH: Yes. My understanding is that they
8 have a witness that needs to go today, and we're fine
9 with that.

10 MS. CREMER: Thank you.

11 Staff, you may call your witness.

12 MS. REISS: Thank you.

13 Staff calls Tom Kirschenmann to the stand,
14 please.

15 Tom Kirschenmann,
16 called as a witness, being first duly sworn in the above
17 cause, testified under oath as follows:

18 DIRECT EXAMINATION

19 BY MS. REISS:

20 Q. Mr. Kirschenmann, would you please introduce
21 yourself to the Commission and spell your name for the
22 record.

23 A. Sure. Good afternoon, Commissioners. Tom
24 Kirschenmann, K-I-R-S-C-H-E-N-M-A-N-N, and I serve as the
25 Deputy Director and the Chief of Wildlife for the

1 Wildlife Division for the Department of Game, Fish &
2 Parks here in South Dakota.

3 Q. Did you prepare testimony to be filed in this
4 docket?

5 A. Yes.

6 Q. And is that testimony marked as Staff's Exhibit 2?

7 A. Yes, it is.

8 Q. Thank you. At the time your testimony and exhibits
9 were filed was it true and correct to the best of your
10 information and knowledge?

11 A. Yes.

12 Q. And if I asked you the same questions today as those
13 posed in your prefiled testimony, would your answers be
14 the same?

15 A. Yes.

16 Q. Do you have any additions, deletions, or edits to
17 make at this time?

18 A. Not at this time.

19 Q. And in your testimony you indicated that Game, Fish
20 & Parks provided recommendations to the Applicant to
21 mitigate for grassland impacts; correct?

22 A. Yes.

23 Q. And can you explain why mitigation for grassland
24 impacts is important?

25 A. Typically in these types of projects that we -- that

1 is a common recommendation that we do offer to
2 developers, in looking at environmental issues, in
3 particular grasslands here in the northeast part of
4 South Dakota.

5 The reason we typically bring up those
6 recommendations and have those discussions and
7 conversations is from a broader perspective in
8 particular. When we look across the country here in
9 South Dakota as well, grassland habitat is one of the
10 natural resources that are on a continual decline, and
11 that is just the nature of the change in the landscape
12 that's occurring out there.

13 And why that is important, at least for discussion
14 purposes and conversations, is because of the several
15 wildlife species that are dependent on grassland
16 habitats. And so as grassland habitats are lost, changes
17 occur in those types of habitats. Or, in this example,
18 some type of a development occurs. It's just important
19 to have that as part of the overall discussion of
20 grassland habitat and associated wildlife to those
21 habitats.

22 Q. Thank you.

23 And if the project is constructed as proposed by the
24 Applicant, are adverse impacts to the environment,
25 wildlife, or wildlife habitat in the area possible?

1 A. As in the Application for being constructed?

2 Q. Yes.

3 A. Yes.

4 Q. Okay. And could those impacts extend beyond the
5 property where the turbine or facilities is constructed?

6 A. That certainly has a possibility.

7 One of the things that we know from some research
8 out there conducted, looking at grassland birds, some
9 birds do have -- or have shown some impacts to both
10 displacement or lack of use of area at varying distances
11 from an actual individual turbine themselves.

12 So depending on the exact location of a turbine,
13 there is a potential that an impact could occur outside
14 the existing property where a turbine may be placed.

15 Q. Do you recall what those distances in the study are?

16 A. In the Shaffer study that we have talked about
17 before, in that particular project or research they
18 looked at 100, 200 and I believe up to 300 meters from an
19 individual turbine.

20 Q. Thank you.

21 Would South Dakota Game, Fish & Parks be agreeable
22 to working with the Applicant to create some sort of
23 mitigation plan regarding this project?

24 A. We certainly would. Understanding the importance of
25 that -- and we stand by and are willing and committed to

1 work with developers, not only on this project but
2 others, looking at those ways that -- from construction
3 and operation that whatever we can help offer to help
4 minimize any potential impacts that may occur.

5 Q. And would a condition requiring that work help
6 alleviate Game, Fish & Parks' concerns with the project?

7 A. I think it certainly would.

8 Q. Okay. Are you aware of any companies that have
9 worked with Game, Fish & Parks for grassland compensation
10 purposes as a result of impacts from their project, even
11 though there is not a formal mitigation policy for
12 grasslands?

13 A. So I'm aware of a couple of projects that have
14 occurred out there, that it wouldn't have only been
15 specific with Game, Fish & Parks, but we would have been
16 probably one of the partners in an overall project.

17 The one that I can think of, for example, was
18 TransCanada had offered up funds from their project to
19 put towards grassland conservation. Those funds provided
20 from that particular company were provided to another
21 entity, the Conservation Foundation, which was used to do
22 some wetland grassland easements, I believe it was.

23 And then that particular activity was then used as
24 another match to put towards a larger federal NAWCAG
25 project, North American Waterfowl Conservation Act Grant.

1 And then those dollars were used to help leverage and
2 bring in additional funds to do more grassland
3 conservation work in the state.

4 Q. Do you recall what particular industry TransCanada
5 was involved in?

6 A. That would have been oil.

7 Q. Was this company or any other company required by a
8 specific law to contribute to a conservation effort?

9 A. Not that I'm aware of, no.

10 Q. So an oil pipeline has voluntarily worked with
11 South Dakota Game, Fish & Parks and other agencies for
12 conservation purposes, but the wind developers who claim
13 to be an environmentally friendly industry have not --

14 MS. SMITH: Objection. Leading.

15 MS. CREMER: I would sustain.

16 MS. REISS: Withdrawn.

17 Staff has no further questions at this time and
18 would offer Mr. Kirschenmann for cross-examination.

19 MS. CREMER: Dakota Range.

20 MS. SMITH: Thank you.

21 CROSS-EXAMINATION

22 BY MS. SMITH:

23 Q. Good afternoon, Mr. Kirschenmann.

24 A. Good afternoon.

25 Q. So in your testimony that you provided, your

1 prefilled testimony, you indicated that the Game, Fish &
2 Parks has no regulatory authority when it comes to
3 permitting wind projects; is that correct?

4 A. That is correct.

5 Q. And you also state that Game, Fish & Parks' role as
6 you described just a little bit ago is to consult with
7 developers and to provide recommendations and suggestions
8 on ways to minimize or avoid potential impacts. Is that
9 also correct?

10 A. That's correct.

11 Q. And you noted in your testimony both in your written
12 testimony and just a little bit ago that the
13 recommendations you provided are typical of
14 recommendations you provide to wind developers; is that
15 right?

16 A. Yes.

17 Q. And you acknowledge that Dakota Range has made
18 efforts to avoid placement of turbines on untilled native
19 prairie; is that correct?

20 A. Yes.

21 Q. And do you acknowledge that there has been
22 coordination between Dakota Range and Game, Fish & Parks
23 and U.S. Fish & Wildlife Service?

24 A. Yes.

25 Q. And you were asked some questions about indirect

1 impacts, I believe; is that right?

2 A. Yes.

3 Q. And you were referencing, I believe, the Shaffer and
4 Buhl study, and there may have been one other study or I
5 may be combining them.

6 There's two referenced in your testimony; is that
7 right?

8 A. Yes.

9 Q. And, as I understand it, those studies, while you
10 acknowledge those studies as being out there, you don't
11 endorse either study; is that correct?

12 A. That is correct.

13 Q. And you also were asked about mitigation and offsets
14 and conditions. While Game, Fish & Parks is recommending
15 mitigation, there's no mitigation policy; is that
16 correct?

17 A. That is correct.

18 Q. And so there is no policy in place that establishes
19 how, for instance, mitigation funds should be determined
20 as far as the amount or how it should be calculated; is
21 that correct?

22 A. That is correct.

23 Q. And so if anyone were to engage in discussions,
24 which you acknowledge that the company has, it would be
25 on a voluntary basis; is that correct?

1 A. Yes.

2 Q. In this particular project Game, Fish & Parks does
3 not have an ownership interest in the land that is under
4 lease; is that right?

5 A. Correct.

6 Q. And so it is all privately owned property?

7 A. Yes.

8 Q. And the landowners that are on that property have
9 the right to enter into lease agreements. It's not
10 controlled by Game, Fish & Parks; is that right?

11 A. That is correct.

12 Q. And as far as state law or Game, Fish & Parks
13 regulations, they do not prohibit the landowners' use of
14 their property; is that correct?

15 A. Correct.

16 Q. So, for instance, if they have grasslands within
17 their property, they're allowed to till those grasslands,
18 hay those grasslands, otherwise develop them; is that
19 right?

20 A. Yes.

21 MS. SMITH: I have no further questions.

22 MS. CREMER: Ms. Kaaz, did you have any
23 questions?

24 MS. KAAZ: No. Not at this time.

25 MS. CREMER: Ms. Mogen.

CROSS-EXAMINATION

BY MS. MOGEN:

Q. What is the penalty if a citizen kills an eagle?

A. The exact penalty, I would have to defer to the Fish & Wildlife Service because the bald eagle is under the jurisdiction of the U.S. Federal Government and under the Migratory Bird Treaty Act, and the Bald Eagle and Golden Eagle Act so I do not know the exact answer for that penalty. And that would have to be referred to the U.S. Fish & Wildlife Service.

Q. Do you know how many bald eagles the wind industry is allowed to destroy?

MS. SMITH: Objection. This is outside the scope of Mr. Kirschenmann's testimony.

MS. MOGEN: Withdraw.

MS. CREMER: Did you have anything further?

MS. MOGEN: No. Thank you.

MS. CREMER: Okay.

Chair Fiegen.

CHAIRWOMAN FIEGEN: I do not have as many questions as I did before for you. But did I hear you right that Game, Fish & Parks would be willing to be a partner if there was a condition placed on this permit to deal with mitigation?

Did I hear you properly when you were

1 responding?

2 THE WITNESS: Yes. Madam Chair, as an agency we
3 are more than willing to work with developers in looking
4 at ways that we can minimize the potential impacts to
5 both wildlife and the associated habitats.

6 From the standpoint of putting together a
7 mitigation approach, we'd certainly be willing, as we
8 have through previous discussions, to talk about
9 recommendations, ideas, and suggestions. And maybe it's
10 ideas and suggestions that are brought forth by the
11 developer that we can then review and provide comment on
12 as well.

13 So we do stand by. We are more than committed
14 and willing to work with developers in looking at these
15 approach. Do we have the template to what it would look
16 like? No. But we certainly stand by and are willing to
17 be part of that process.

18 CHAIRWOMAN FIEGEN: Okay. Thank you.

19 MS. CREMER: Commissioner Hanson.

20 COMMISSIONER HANSON: Good afternoon.

21 THE WITNESS: Good afternoon.

22 COMMISSIONER HANSON: Thanks for stopping by.

23 As if you had a choice; right?

24 On page 2 Ms. Smith asked the questions for me,
25 and your testimony is written; however, as we all

1 understand, Game, Fish & Parks has no regulatory
2 authority when it comes to permitting wind energy
3 development.

4 THE WITNESS: Correct.

5 COMMISSIONER HANSON: All you can do is provide
6 recommendations and suggestions on how to minimize or
7 remove potential impacts to wildlife and associated
8 habitats.

9 Do you have an opinion on that, as to whether or
10 not GF&P should have any authority? Is that above your
11 pay grade, or do you have an opinion?

12 THE WITNESS: I would say it's way above my pay
13 grade.

14 COMMISSIONER HANSON: Okay.

15 THE WITNESS: What I would say, though, is no
16 different than working with an individual landowner when
17 they're looking to do management type activities on their
18 property. We are there to assist, provide information
19 that they can help make an informed decision. So at this
20 point in time that is our primary role.

21 COMMISSIONER HANSON: Great.

22 On page 4 close to the bottom there's a
23 sentence, "It is recommended to carry out
24 postconstruction mortality monitoring for at least two
25 years."

1 That's fine. I'm glad to see that. However,
2 what if the result is that there is significant
3 mortality? What action can GFP take at that point if you
4 can't do anything other than make recommendations?

5 THE WITNESS: That's a really good question.
6 That's one that we talk about in length. Whether it's
7 one year, whether it's two years or whatever that time
8 frame is of a postconstruction survey work, the way we
9 look at that and view it is that is important information
10 and valuable information, not only for the developer and
11 at that time the operator of that particular facility but
12 it's information that can be used to potentially adjust
13 day-to-day operation or seasonal operation.

14 And so by that data information that's
15 collected, by sharing it with our agency, U.S. Fish &
16 Wildlife Service, and even potential other wildlife or
17 natural resource agencies, we can collectively talk about
18 it, review it, and hopefully work together and find some
19 resolutions or some solutions to put together. And if
20 nothing else, recommend or throw some ideas of
21 adjustments to, again, whether it's day to day or a
22 seasonal operation to help minimize or maybe potentially
23 reduce those impacts moving into the future.

24 Understand the facility's there, but it's really
25 from the standpoint of potentially using that data and

1 information to make adjustments moving forward.

2 COMMISSIONER HANSON: So am I correct in
3 inferring from your answer is that you basically still
4 have a position of just making suggestions?

5 THE WITNESS: At that point in time we would
6 still be in that same position, correct. But I think the
7 value in having the data and information collected and
8 then consultation with staff and biologists and experts
9 in our agency as well as other agencies and any expertise
10 or consultants that a developer of a facility might have,
11 I think there can be some very rational discussions and
12 look at some options for consideration moving forward to
13 help minimize and maybe potentially eliminate those
14 impacts that may or may not be found through that data
15 collection.

16 COMMISSIONER HANSON: You deserve diplomacy pay.
17 You said that very well.

18 Still I agree totally that having that
19 information is very valuable, very important. Hopefully
20 anyone in a position of being able to correct any
21 challenges that are enlightened as a result of that study
22 would take some action to resolve it.

23 You devote a lot of your testimony regarding
24 permanent loss, temporary loss, fragmentation, the loss
25 of habitat, the value of remaining habitat. Are you

1 concerned with the cumulative effect of wind turbines in
2 this area?

3 THE WITNESS: Again, it's one of those topics
4 that comes up every single time in these discussions.
5 And there is the question, there is the concern, and the
6 interest of those cumulative impacts.

7 Our bigger challenge is how do we evaluate it,
8 and how do we determine those overall cumulative impacts.
9 And that is one of our challenges.

10 Certainly been discussions around how do we
11 better determine that? How do we assess that? And,
12 quite frankly, we don't have our hands wrapped around
13 that yet. But there's certainly that question that comes
14 up. As more and more facilities are considered and the
15 larger number and more area that's being considered for
16 development, in particular in the northeast part of the
17 state where grassland habitat is a key component to the
18 landscape, the wetland components up in that part of the
19 state as well, so we always talk about that and consider
20 it.

21 But one of our challenges in the wildlife
22 community and the conservation community is how do we
23 thoroughly assess it? How do we come up with what that
24 final answer is of cumulative impact? And we're just not
25 there yet.

1 So it's something that's a concern, something
2 that we think about. It's just a very, very difficult
3 one to fully assess and have our hands wrapped around.

4 COMMISSIONER HANSON: Thank you.

5 When you say we're just not there yet, we'll
6 probably be there in about three years after we have --
7 two years after we have those studies from a variety of
8 different applicants.

9 Appreciate your testimony. Thank you very much.

10 THE WITNESS: You're welcome.

11 MS. CREMER: Commissioner Nelson.

12 COMMISSIONER NELSON: Tom, thanks for being
13 here. And I think if you keep doing this, we're going to
14 have to make you an honorary staff member.

15 THE WITNESS: I'm not sure you want that.

16 COMMISSIONER NELSON: Have you followed the
17 development of the new Farm Bill at all as it relates to
18 the CRP?

19 THE WITNESS: I do. We have staff that follow
20 that on a day-to-day basis, but I do try to keep up with
21 it as well.

22 COMMISSIONER NELSON: My understanding is
23 they're looking at an expansion of the program; is that
24 correct?

25 THE WITNESS: It's certainly being discussed at

1 a national cap level right now, which is 24 million.
2 There's discussions and different numbers been thrown
3 around and different levels in different versions of
4 Farm Bills right now.

5 The common number that's being discussed right
6 now is about that 29 million mark, but we'll have to wait
7 and see.

8 COMMISSIONER NELSON: So where I'm going with
9 all of that, if that does, in fact, take place, it's
10 possible we might see some expansion of grassland in
11 South Dakota; is that correct?

12 THE WITNESS: That is a possibility, yes.

13 COMMISSIONER HANSON: Honorary members have to
14 pay into the coffee fund, by the way.

15 THE WITNESS: Very good.

16 CHAIRWOMAN FIEGEN: Just a quick question. Did
17 you happen to see Exhibit A18 that Ms. Smith passed out
18 on recommended permit conditions?

19 THE WITNESS: I did not. I have not seen it.

20 CHAIRWOMAN FIEGEN: Okay. No. 34, similar to
21 what we may have seen before -- it might have been No. 37
22 or something before, but this looks like the Applicant --
23 and I don't know.

24 Did you work with the Applicant on conditions at
25 all.

1 THE WITNESS: No. No, ma'am.

2 CHAIRWOMAN FIEGEN: Okay. Because this is just
3 undertaking a one year of independent conducted
4 postconstruction mortality monitoring instead of a two
5 year, and so I didn't know if you were in those
6 discussions or not.

7 THE WITNESS: I was not part of the discussions,
8 Madam Chair.

9 Again, I know some of our staff that had been in
10 constant communication or communication over the last
11 year to two years in terms of the project itself, but
12 from the standpoint of putting the conditions together,
13 no.

14 CHAIRWOMAN FIEGEN: Okay. Because in your
15 testimony, I don't know exactly, but mortality monitoring
16 and all inclusive or what that all includes, but on
17 page 4 it talks about at least two years; is that
18 correct?

19 THE WITNESS: Yeah. And, again, we typically
20 will offer up or recommend two years of postconstruction
21 monitoring. And one of the primary reasons, any time
22 you're conducting survey work, whether it's
23 preconstruction, postconstruction --

24 In my previous life in doing some research, we
25 know that one year can be a time shot, and things can

1 vary substantially from a year to year. And so we
2 typically offer up the recommendation of two years just
3 to have probably a little more sound information over
4 that window of time.

5 CHAIRWOMAN FIEGEN: All right. Thank you. That
6 is my last question.

7 MS. CREMER: Redirect, Staff?

8 MS. REISS: Just briefly.

9 REDIRECT EXAMINATION

10 BY MS. REISS:

11 Q. Looking at Condition 34 on the document Ms. Edwards
12 handed you, A18, is there an additional sentence after
13 the one-year independently conducted postconstruction
14 avian mortality monitoring?

15 A. Yes.

16 Q. Can you read that into the record for me, please.

17 A. Sure. The last sentence states, "Based upon the
18 results of said monitoring, the need for and scope of an
19 additional year of independently conducted
20 postconstruction avian mortality monitoring will be
21 determined in coordination with USFWS and GFP."

22 MS. REISS: Thank you.

23 Staff has nothing further.

24 MS. CREMER: Dakota Range, do you have any?

25 MS. SMITH: I do not. Thank you.

1 MS. CREMER: And Ms. Mogen.

2 MS. MOGEN: Yes, I do.

3 RECROSS-EXAMINATION

4 BY MS. MOGEN:

5 Q. On impacts. Turbines disrupt pollinator habitat?

6 A. Make sure I understand, Ms. Mogen. The question
7 is -- excuse me. Does a wind turbine impact pollinator
8 habitat?

9 Q. Yes.

10 A. Can you define to me what you're considering or
11 thinking of as pollinator habitat just so I fully
12 understand?

13 Q. We'll just make it simple with honey bees.

14 A. Specific to honey bees, I can't give you an answer
15 what an impact may or may not be. Specific to pollinator
16 habitat, there's different kinds of pollinator habitats,
17 different makers of pollinator habitats.

18 I don't know whether it would have a direct impact
19 to the habitat itself. What it may have is more of a
20 potential impact to the species that may use that
21 pollinator habitat.

22 Q. So it may --

23 A. It may.

24 Q. -- have an impact to the species?

25 A. It may, depending on individual species.

1 Q. Do you know where South Dakota falls in honey
2 production in the United States?

3 MS. SMITH: Objection. Outside the scope of
4 testimony.

5 MS. CREMER: I would sustain.

6 A. I don't remember the exact ranking, but I know it's
7 high in the country.

8 Q. Number two.

9 MS. MOGEN: Thank you.

10 MS. CREMER: Ms. Kaaz, did I ask you yet?

11 MS. KAAZ: No. Obviously, it's above my
12 education level to discuss with this witness. So no.

13 MS. CREMER: It doesn't prevent many of the rest
14 of us from asking so, you know.

15 I believe you're done. You may step down.
16 Thank you.

17 THE WITNESS: Thank you.

18 (The witness is excused.)

19 MS. CREMER: Dakota Range, it would be back to
20 you.

21 MS. SMITH: So I believe that we have called all
22 that we planned to call today. If we can resume
23 tomorrow, we would be ready to call the remainder of our
24 witnesses.

25 MS. CREMER: That works for me. I know

1 Mr. Rislov wants to claim he has a spouse's birthday he
2 has to go to, but it's really something more of the golf
3 course so we needed to be done anyway.

4 MR. RISLOV: Just can't tell these people
5 anything.

6 MS. CREMER: I would ask for suggestions on time
7 tomorrow morning from the Commissioners.

8 And first I'd ask Dakota Range, do you
9 anticipate finalizing your case in chief tomorrow?

10 MS. SMITH: Yes, we do. I think based on the
11 pace we're going we believe we would finalize it
12 tomorrow.

13 MS. CREMER: Okay.

14 And so based on that --

15 COMMISSIONER NELSON: 8:30.

16 MS. CREMER: 8:30 then is the consensus.

17 Is there any other business today?

18 And, Katlyn, will the door be locked? Can we
19 leave our things in here?

20 MS. GUSTAFSON: Yeah.

21 MS. CREMER: Okay. What time will the door be
22 open?

23 MS. GUSTAFSON: 8 o'clock.

24 MS. CREMER: Anything else from anyone?

25 MS. SMITH: Just one more thing. We have filed

1 a confidential copy of the lease as A19. So that has
2 been provided.

3 MS. CREMER: Okay. So you have offered. Does
4 anyone have an objection to A19?

5 MS. EDWARDS: No objection.

6 MS. CREMER: Ms. Mogen.

7 MS. MOGEN: No objection.

8 MS. CREMER: Ms. Kaaz.

9 MS. KAAZ: No objection.

10 MS. CREMER: It is admitted. And we will be in
11 recess until 8:30 tomorrow morning. Thank you.

12 (The hearing is in recess at 4:40 p.m.)
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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 12th day of
11 June, 2018, and that the attached is a true and correct
12 transcription of the proceedings so taken.

13 Dated at Onida, South Dakota this 22nd day of
14 June, 2018.

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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