

STATE OF ILLINOIS)
)
COUNTY OF BUREAU)

In the Matter of the Petition
 of

Braided Creek Wind, LLC
Indiantown Township and Macon Township
Bureau County, Illinois

Testimony of Witnesses
Produced, Sworn and
Examined on this 10th day
of September, A.D., 2025,
before the Bureau County
Zoning Board of Appeals

Present:

Bill Jensen
Jim Forristall
Shirley Ann Smith
Mike Stutzke
Barry Welbers, Chairman

Kristine Donarski, Zoning Enforcement Officer

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1 JUDGE SLAVIN: Well, good evening
2 everyone. I call out of recess Bureau County
3 Zoning Board of Appeals hearing on 111
4 sequential petitions, beginning with
5 25-06-16-1CV, Braided Creek Wind, LLC's, request
6 for Conditional Use Permits and zoning
7 Variations to construct and operate a wind
8 energy conversion system in the county.

9 I note the presence in the hearing room
10 this evening of four honorable ZBA members:
11 Mr. Jensen, Mrs. Smith, Mr. Stutzke and
12 Mr. Forristall.

13 I note the presence of Zoning Officer,
14 Kris Donarski, and her assistant.

15 I note the presence of the Petitioner's
16 attorney, Mr. Barry, and four of the
17 Petitioner's reps, myself and, of course, our
18 court reporter, Callie.

19 Looking out in the crowd, I think I
20 identify five folks here who are Interested
21 Parties.

22 And the only thing we haven't covered --
23 last time, Mr. Jensen, I'm not picking on you,
24 but you couldn't be here, understandably. Do

1 you know any more about your availability for
2 the next, let's say, month or couple months,
3 without disclosing too much?

4 MR. JENSEN: As far as I know, I'm okay.

5 JUDGE SLAVIN: Let me ask you
6 particularly, September 29th and 30th?

7 MR. JENSEN: As far as I know.

8 JUDGE SLAVIN: Okay.

9 MR. JENSEN: It just depends on --

10 JUDGE SLAVIN: Your condition, I
11 understand.

12 MR. JENSEN: Yup.

13 JUDGE SLAVIN: I also note Mr. Welbers,
14 the Chair, Honorable Chair, just walked in. So
15 we have a full complement of ZBA members.

16 When we left off a few weeks ago, the
17 Petitioner was in the midst of the presenting
18 its evidence -- Petitioners were in the midst of
19 presenting their evidence.

20 And, Mr. Barry, you may continue.

21 ATTORNEY BARRY: Thank you, Judge.

22 Is this one on?

23 JUDGE SLAVIN: Is that one on?

24 ATTORNEY BARRY: There we go. Thank you.

1 Thank you, Judge. At this time I would
2 like to call Jared Zvonar.

3 JUDGE SLAVIN: Back to the stand.

4 ATTORNEY BARRY: Yes, for a few follow-up
5 questions.

6 JUDGE SLAVIN: All right. The Slavin Rule
7 is in effect, Mr. Zvonar. Want to raise your
8 right hand?

9 The Slavin Rule is if more than 24 -- if
10 you have slept overnight, then you have to take
11 the oath again.

12 JARED ZVONAR,
13 being first duly sworn, was examined and
14 testified as follows:

15 JUDGE SLAVIN: You may inquire.

16 ATTORNEY BARRY: Thank you.

17 EXAMINATION

18 BY ATTORNEY BARRY:

19 Q. Mr. Zvonar, can you remind everybody who you
20 are?

21 A. Yes. I'm a development manager at Leeward
22 Renewable Energy. My role is to manage projects
23 from inception basically through the
24 construction phase.

1 Q. And can you state your name for the record.

2 A. It is Jared Zvonar.

3 Q. Can you spell it?

4 A. Yes. J-A-R-E-D, Z- as in zebra, V- as in
5 Victor, O-N-A-R.

6 Q. Thank you.

7 Mr. Zvonar, does the project have a fully-
8 executed Agricultural Impact Mitigation
9 Agreement with the Illinois Department of
10 Agriculture?

11 A. Yes.

12 Q. And was that agreement signed by the Applicant
13 on June 6th, 2025?

14 A. Yes.

15 Q. And was that agreement signed by the Department
16 of Agriculture on July 2nd, 2025?

17 A. Yes.

18 Q. And have you presented a copy of that fully-
19 executed agreement to Bureau County?

20 A. Yes.

21 Q. How did you submit it?

22 A. I provided a copy of that document to the
23 Zoning Enforcement Officer.

24 ATTORNEY BARRY: And, Judge, at this time

1 we have a number of copies, more than eight, of
2 the fully-executed AIMA, and if necessary I
3 would like to present that as part of the
4 record.

5 JUDGE SLAVIN: Have you got it marked as
6 something?

7 ATTORNEY BARRY: I do not.

8 JUDGE SLAVIN: Why don't you -- I have
9 that we left off at PET 1. So I guess we'll
10 call it PET 2.

11 ATTORNEY BARRY: Thank you. And where
12 would you like me to bring the copies?

13 JUDGE SLAVIN: I would like one, the court
14 reporter one, and then the ZBA one each, and
15 Ms. Donarski, and that will do it.

16 ATTORNEY BARRY: Okay. If you'll let me
17 write the exhibit number on them.

18 JUDGE SLAVIN: Absolutely.

19 (Petitioner's Exhibit Number 2
20 marked for identification.)

21 Q. (By Attorney Barry:) Mr. Zvonar, we talked
22 about your -- the PowerPoint presentation you
23 gave during the last session on August 20th.

24 Do you have eight copies of that

1 PowerPoint presentation this evening?

2 A. Yes.

3 ATTORNEY BARRY: And I believe that was
4 previously marked as Petitioner's Exhibit Number
5 1; is that correct, Judge?

6 JUDGE SLAVIN: Yes, sir.

7 ATTORNEY BARRY: Okay. So I'll pass those
8 out at this time.

9 JUDGE SLAVIN: Great.

10 (Petitioner's Exhibit Number 1
11 marked for identification.)

12 Q. (By Attorney Barry:) Mr. Zvonar, are you
13 familiar with the Bureau County Ordinance
14 requirement that indicates that all equipment
15 associated with a commercial wind energy
16 facility must be new equipment?

17 A. Yes.

18 Q. Will the equipment for the proposed Braided
19 Creek Wind Energy Project be new equipment?

20 A. Yes.

21 Q. And does that include the wind turbines?

22 A. Yes.

23 Q. Does that include the substation?

24 A. Yes.

1 Q. Does that include the inverters?

2 A. Yes.

3 Q. Does that include the injunction boxes?

4 A. Yes.

5 Q. Does that include the cables?

6 A. Yes.

7 Q. So again, all of those items that I mentioned
8 will be new?

9 A. Yes.

10 Q. As opposed to used, correct?

11 A. Correct.

12 Q. Thank you.

13 So I think at the last session there was a
14 discussion about lighting at the proposed
15 substation. Do you recall that?

16 A. I do.

17 Q. Will that lighting that will be deployed at the
18 proposed project substation be downcast and
19 shielded as well?

20 A. Yes.

21 Q. So that's a commitment that the Applicant is
22 making, correct?

23 A. Yes, correct.

24 Q. Okay. This one is really getting into the

1 weeds, but in some of the petitions there's a
2 reference to, quote, associated infrastructure,
3 end quote.

4 Can you explain what that term means?

5 A. Yeah. That language refers to junction boxes
6 which might be located periodically along the
7 collection line routes throughout the project
8 site, as well as any unique engineering that
9 might be associated with crossing underneath or
10 around existing infrastructure in the area with
11 those collection lines.

12 Ultimately, the necessity of that kind of
13 infrastructure and the exact location of it is
14 going to be -- it can't be determined until we
15 actually have a finalized layout.

16 Q. Thank you.

17 One more question. I'm going to ask you a
18 question about access roads because I think that
19 subject might have come up last time.

20 How many access roads are planned for each
21 wind turbine?

22 A. Each turbine right now is planned to have one
23 access road, potentially fewer if turbines are
24 able to share access roads.

1 You can see in our site plan in Exhibit A
2 that we proposed a number of additional access
3 roads as alternates in case, for whatever
4 reason, one route is better than another.

5 Q. So if the site plan shows more than one access
6 road to a wind turbine, it's -- if there's more
7 than one, one of those roads depicted on the
8 site plan would be an alternate?

9 A. Correct.

10 ATTORNEY BARRY: Thank you, Mr. Zvonar.

11 Judge Slavin, that's all the questions I
12 have for Mr. Zvonar.

13 JUDGE SLAVIN: All right. I have got one,
14 just real quick, on the last one.

15 EXAMINATION

16 BY JUDGE SLAVIN:

17 Q. So another way to phrase it, Mr. Zvonar, is
18 that at most there would be one access road per
19 WTG?

20 A. Yes, that's correct.

21 JUDGE SLAVIN: Okay. Questions of this
22 witness, just based on what he's testified this
23 evening.

24 Ms. Donarski?

1 MS. DONARSKI: I have none.

2 JUDGE SLAVIN: How about you, Mr. Welbers?

3 MR. WELBERS: No, sir.

4 JUDGE SLAVIN: Mr. Jensen?

5 MR. JENSEN: No questions.

6 JUDGE SLAVIN: Ms. Smith?

7 MS. SMITH: No.

8 JUDGE SLAVIN: Mr. Forristall?

9 MR. FORRISTALL: No.

10 JUDGE SLAVIN: Mr. Stutzke?

11 MR. STUTZKE: No, sir.

12 JUDGE SLAVIN: Interested Parties. And
13 I'm going to say again, this is just the time
14 for questions. You have to limit your questions
15 to the testimony he's given this evening. The
16 time to ask questions about what he testified
17 about the last session is gone.

18 Just so we all don't get crosswise with
19 everybody, I beg everybody to ask a question,
20 one question at a time. He's here to answer
21 your questions, if you have any. That's what I
22 want you to do. But you -- rather than argue
23 with him or tell him things, if you have got a
24 question, just ask the question and one at a

1 time.

2 I was telling Ms. Donarski earlier this
3 evening, when I was a real young lawyer the guy
4 that monitored me said, "Okay, it's time for
5 your first trial." And it was a little bitty
6 thing. He said, "This is what you're going to
7 do. You're going to write out your questions
8 ahead of time, and you're going to do that for
9 every trial until I tell you that you can't,
10 that you don't have to."

11 And that's the way to do it, folks. You
12 have got a question, write it out and then ask
13 him the question.

14 So, Interested Parties, by raising a hand
15 -- and I'm not going to promise I'm going to see
16 every hand the first time -- but if you have got
17 a question, please raise your hand; one or more
18 questions.

19 Whoever is raising your hand, want to step
20 up to the podium? Last session the court
21 reporter, understandably, couldn't hear folks
22 way in the back, and we have changed that.

23 MS. STETSON: Can I ask you one question,
24 Judge Slavin?

1 JUDGE SLAVIN: Yes.

2 MS. DONARSKI: Come up here.

3 MS. STETSON: I was just wondering --

4 JUDGE SLAVIN: First of all, start with
5 your name. Remember, the record doesn't
6 necessarily reflect who you are.

7 MS. STETSON: Connie Stetson.

8 Some of the questions at the last meeting,
9 I don't think I spoke the way I should have, and
10 I wanted to --

11 JUDGE SLAVIN: No, the time for that --
12 now we're just talking about his testimony
13 tonight.

14 EXAMINATION

15 BY MS. STETSON:

16 Q. You said access roads. The one that we spoke
17 of last time -- there was two of them on that
18 hill, and then you said one of them was going to
19 be, but you said the wrong direction. When I
20 got home, it was on the wrong side.

21 Do you know what direction that hill --
22 that that access road would be?

23 A. I apologize, I don't.

24 Q. And you had mentioned also about the trees.

1 How many trees are you going to tear down on
2 that? Because there's a whole row of trees --

3 JUDGE SLAVIN: Now you're telling him
4 things. Just, how many trees --

5 Q. (By Ms. Stetson:) Well, how many trees are you
6 going to tear down?

7 A. It will depend on the ultimate access road
8 location. At this point, we can't determine.

9 Q. Is it going to be on Nielsens' or Rumbolds'
10 side?

11 A. That's also to be determined as we, kind of,
12 select those final turbine locations and access
13 road locations.

14 Q. I just want you to be aware that --

15 JUDGE SLAVIN: Don't tell him. You have
16 got to ask him.

17 Q. (By Ms. Stetson:) Are you aware --

18 JUDGE SLAVIN: There you go.

19 Q. (By Ms. Stetson:) -- that there are eagles
20 that are around that area?

21 A. I'm not aware one way or another. Ultimately,
22 we're going to have an expert testifying on
23 avian studies later in the hearing process.

24 Q. Who is speaking tonight?

1 A. Tonight it will be myself and two of our
2 representatives from a firm called Burns &
3 Mac -- or Burns & McDonnell, who has been
4 working on the project. One of them will be
5 focusing on shadow flicker, decommissioning and
6 our engineer certificate requirements in the
7 Ordinance. The other will be focusing more on
8 wetlands, cultural, and some of the ecology
9 questions that are required in the Ordinance.

10 Q. Could you let me know or could -- do you know
11 when the wildlife people will be here?

12 A. At this time we are planning for either the
13 next hearing or the following one. Most likely
14 the next hearing.

15 Q. What about the communications, when are they
16 going to testify?

17 A. I think also the next hearing, but we are still
18 kind of working through the scheduling on that.

19 JUDGE SLAVIN: Just so the record is
20 clear, there's not a separate hearing. This is
21 all one hearing; it's sessions.

22 MS. STETSON: Sessions.

23 JUDGE SLAVIN: And I'm not trying to be
24 picky, but there is a difference.

1 MS. STETSON: Sessions, okay. Thank you.

2 JUDGE SLAVIN: All right. Any other
3 Interested Parties? If you have a question of
4 this witness based on what he's testified to
5 tonight, please raise your hand.

6 (No verbal response.)

7 JUDGE SLAVIN: All right. You may step
8 down/walk away.

9 THE WITNESS: Thank you.

10 JUDGE SLAVIN: You may continue,
11 Mr. Barry.

12 ATTORNEY BARRY: Thank you, Judge. The
13 next witness will be Aaron Anderson.

14 JUDGE SLAVIN: Mr. Anderson, do you want
15 to raise your right hand, please.

16 AARON ANDERSON,
17 being first duly sworn, was examined and
18 testified as follows:

19 JUDGE SLAVIN: You may inquire.

20 ATTORNEY BARRY: Thank you.

21 EXAMINATION

22 BY ATTORNEY BARRY:

23 Q. Mr. Anderson, could you please state your name
24 for the record.

1 A. It's Aaron, A-A-R-O-N, Anderson,
2 A-N-D-E-R-S-O-N.

3 Q. And maybe you could move to the -- I understand
4 you have a PowerPoint presentation, correct?

5 A. I do.

6 Q. Could you move to the next slide, please.

7 Thank you.

8 Could you please tell us about your
9 background and do an introduction, as the slide
10 indicates?

11 A. Sure.

12 So I work for a firm called Burns &
13 McDonnell, where I'm the senior managing
14 director of Energy Advisory, which is our power
15 consulting team. I have been with the company
16 approximately 18 years, spending the entirety of
17 my time there working in the wind industry.

18 In terms of education, I have got
19 undergraduate degrees in physics and mechanical
20 engineering, and a Master's degree in
21 engineering management. I am a licensed
22 professional engineer in multiple states,
23 including the state of Illinois.

24 In terms of the content that we'll discuss

1 this evening around shadow flicker and
2 decommissioning, I have supported more than 200
3 wind projects in my career, more than a hundred
4 shadow flicker studies and dozens of
5 decommissioning estimates, including many in the
6 state of Illinois.

7 Q. And have you provided consulting advice or work
8 on projects -- wind projects in Bureau County?

9 A. I have. I've -- it's nice to see you all
10 again. I've been here several times in the
11 past, including Crescent Ridge and Big Sky.

12 Q. And so I take it you are familiar with the
13 Braided Creek Wind Energy Project?

14 A. I am.

15 Q. And again, can you explain to us what work you
16 have done in connection with the project and
17 what you're going to testify about tonight?

18 A. Sure.

19 So my team prepared the shadow flicker
20 study, which is Appendix M to the application;
21 the decommissioning plan, which is Appendix P to
22 the application; and the engineer's certificate,
23 which I, unfortunately, don't have the exhibit
24 number for.

1 Q. All right. Well, I think you have the clicker,
2 as my dad calls it. So I'll ask you proceed
3 through your PowerPoint when you're ready.

4 A. Great. My dad calls it a clicker as well.

5 So I will begin by talking about the
6 shadow flicker studies, again, Appendix M to the
7 application. Let's begin with a quick overview
8 of shadow flicker itself. For whatever it's
9 worth, the things that I'm going to talk about,
10 if you were here for any of the previous
11 hearings that I participated in, approach a
12 methodology exactly the same. So this will
13 hopefully sound very familiar.

14 So shadow flicker occurs when a wind
15 turbine blade passes in front of the sun and
16 creates a shadow. What's really important for
17 shadow flicker is that at least four things have
18 to be true in order for shadow flicker to
19 appear:

20 One, the sun has to be shining. If there
21 is no sun, there can be no shadow;

22 The turbine must be in operation, is thing
23 number two, requirement number two. If the
24 turbine is not spinning, if it's standing still,

1 then it is just a shadow, it is not shadow
2 flicker;

3 Requirement number three is, between the
4 turbine and whatever direction that the shadow
5 is being cast there can be no obstructions in
6 the way that would block a shadow, no different
7 than any other shadow that would be cast;

8 And the receptor. So in this case, an
9 occupied residence or a community building has
10 to be in the line of sight of that turbine and
11 the shadow that's being cast.

12 What you'll see and what we'll show you is
13 that shadow flicker is very predictable, and
14 it's very common during certain times of the
15 year and certain times of day. Where it's most
16 prevalent is either early in the morning or late
17 in the evening, when the sun is really low on
18 the horizon, or during certain seasons, in
19 particular the springtime and the fall.

20 That's not to say it can't happen at other
21 times of day, but when the sun is directly
22 overhead, the shadow can't go as far, so it's
23 very uncommon to see that happen at an occupied
24 residence.

1 The same is true during the summer and
2 during the winter. Just because of the geometry
3 of the sun in that season, flicker is less
4 likely to occur at those times.

5 As we began the study, we took into
6 account both Federal, State and local
7 requirements. So as was the same the last time
8 I was here, shadow flicker is not regulated at
9 the Federal level. It is mandated at the State
10 level according to this Illinois Statute, which
11 is very consistent with what your County
12 Ordinance requires here in Bureau County.

13 Which, to paraphrase, is that at any
14 occupied residence or a home where people are
15 living or an occupied community building, where
16 those are nonparticipating in the project, that
17 shadow flicker must be limited to 30 hours per
18 year, both at the State and the County level.

19 To model flicker, we used a program called
20 WindPro. WindPro is the industry standard for
21 doing these analyses. The way that WindPro
22 works is, it takes into consideration all of the
23 turbines, all of the terrain, all of the homes,
24 and it models the position of the sun over every

1 individual minute of the year and aggregates any
2 flicker that would accrue at every single point
3 where it happens to accrue. So we will see, for
4 every receptor over the course of the year,
5 exactly how many flicker would occur.

6 Within WindPro, or the software that we
7 use, there are a number of inputs. Some of the
8 more critical ones are here. We modeled two
9 layouts. Those layouts include two different
10 turbine models: one was a General Electric
11 turbine, one was a Vestas wind turbine.

12 Important to note is in the GE layout, the
13 General Electric layout, we have modeled 50,
14 5-0, wind turbines. We are expecting that to be
15 very conservative because eight of those turbine
16 positions are alternates. So we do not expect
17 to build all 50 in that layout.

18 Similarly, in the Vestas layout of 44,
19 there are eight alternate positions within that
20 one as well. Meaning, those alternate positions
21 that may not be constructed, we have allowed
22 flicker to accrue, meaning the total aggregated
23 amount would be higher, meaning the result
24 should be conservative compared to what we'll

1 actually see in practice.

2 Within the project area, we have modeled
3 468 occupied residences or community buildings.
4 For each of those, we have modeled those with a
5 setting in WindPro called greenhouse mode, which
6 is another example of conservatism. What
7 greenhouse mode means is, we modeled each home
8 as having a window on every single side; meaning
9 that shadow flicker, regardless of where it's
10 coming from, can accrue at the home, which is
11 the most conservative approach that we can take
12 to this.

13 The last few things you'll see there on
14 the screen in terms of key inputs, one is
15 obstacles. So this -- examples would be barns,
16 silos, hedge rows, trees, anything that would
17 block shadow from getting from the turbine to
18 the home. We have disregarded all of those,
19 which is the most conservative approach we could
20 take. In practice, if a hedge row were to
21 exist, that could block shadows from reaching
22 the home.

23 We have modeled the actual terrain at the
24 site using data from the USGS. So that if

1 turbines are sitting up high or low relative to
2 a receptor, that's taken into account.

3 And then we have modeled the distance that
4 those shadows can propagate. The industry
5 standard for this is 10 rotor diameters. So by
6 example, the Vestas turbines have a rotor
7 diameter -- meaning blade tip to blade tip -- of
8 163 meters. We have multiplied that by 10. So
9 1,630 meters, or just north of a mile, is how
10 long we have allowed the shadows to go.

11 Any distance further than that, the
12 assumption is that the light diffuses and the
13 shadows are imperceptible. Again, a very
14 conservative assumption.

15 With those inputs, we start to get
16 results. All of those are aggregated within the
17 software platform, and we are able to present
18 them both numerically and graphically.

19 This is an example of a graphical
20 presentation of shadow flicker. What you'll see
21 is the wind turbine there in the middle, and it
22 creates what we call a butterfly shape. The
23 significance of that is that flicker is not
24 equal in all directions.

1 You'll notice that those contour lines --
2 the red, yellow, blue -- are more significant to
3 the northeast, the northwest, the southeast and
4 southwest. The reason for that is that when the
5 sun rises in the southeast, for example, physics
6 tells us that the shadow will be cast to the
7 northwest. If it rises in the southeast, you
8 cannot have a shadow to the southeast. It's not
9 physically possible.

10 So that butterfly shape is taken into
11 account, and it makes the positions of the
12 turbines really critical.

13 What we'll also see is that that causes a
14 lot of variation that has all been taken into
15 account with where the position of that turbine
16 is relative to the receptor, and that being
17 close to the turbine is not necessarily the only
18 requirement for flicker to occur. It's the
19 position of it relative to the sun.

20 The other way that we see it graphically
21 is what we call the calendar. So in the back of
22 the report, if you have got it, in Appendix E,
23 as in echo, you'll see one of these individual
24 calendars for every single receptor, all 468

1 that we have modeled.

2 I chose an example at random here. What
3 you'll see is, along the bottom X axis are
4 months, January through the end of the year, and
5 upon the Y axis is time of day, so from sunrise
6 in the morning to sunset in the evening.

7 This particular receptor, H10, hotel 10,
8 has shadow flicker occurring at two times of the
9 year. One is in March, and the reason you see
10 it a bit staggered there is daylight savings
11 time, and the other one is in the month of
12 October. This is very typical. This is late
13 afternoon flicker happening between, say, 5:00
14 and 5:30 in the afternoon in the month of March,
15 and roughly the same in the month of October,
16 but only during those two very specific periods.

17 So when we talk about flicker occurring,
18 it's important to realize that the majority of
19 the time, regardless of the amount of flicker
20 that accrues at a given home, the majority of
21 the time it's blank, there is no flicker that's
22 occurring. It's only during these very specific
23 and limited times of day and times of year.

24 The last item of note on shadow flicker

1 is, after we have done all that, it's important
2 to have results. So what I have shown you here
3 are the two layouts that we have considered.
4 The first row are the GE turbines. The second
5 row are the Vestas turbines.

6 Second-from-the-right column shows you the
7 number of participating receptors. So of the
8 468, eight of the participating receptors in the
9 GE layout have more than 30 hours per year of
10 flicker; six in the Vestas layout. In both the
11 GE and Vestas layout, there are six in the
12 unmitigated scenario, which I'll explain in just
13 a moment -- there are six nonparticipating
14 receptors in either situation where shadow
15 flicker unmitigated is above 30 hours per year.

16 What's great about shadow flicker is that
17 even when it occurs, it is predictable. So it
18 can be mitigated. There are a number of ways to
19 do that, from considering all of the things that
20 we have excluded in the model, like trees and
21 vegetation and hedge rows, barns and buildings,
22 et cetera, to modifying turbine operation.

23 What I want to emphasize though is that
24 the Ordinance and the Statute require 30 hours

1 per year. This is unmitigated. The Applicant
2 will ensure that at these nonparticipating
3 receptors that shadow flicker remains below the
4 mandated 30 hours per year.

5 Q. (By Attorney Barry:) Okay. Mr. Anderson, if
6 you could keep that slide up. I have some
7 questions here. Let's break it down.

8 As you just indicated, your study, which
9 is a model, right, because the turbines aren't
10 there yet, correct?

11 A. Yes.

12 Q. So you have to deploy a model to examine the
13 potentiality of shadow flicker, correct?

14 A. Correct.

15 Q. And so the study you did that deploys the model
16 shows that there are six receptors that will
17 experience more than 30 hours per year of shadow
18 flicker, correct?

19 A. That are nonparticipating, yes.

20 Q. Nonparticipating, yes.

21 And those are residences?

22 A. Yes.

23 Q. Okay. So I think, as you also just indicated,
24 the project will not be allowed to exceed

1 30 hours a year of flicker on those six
2 residences, nonparticipating residences,
3 correct?

4 A. Yes.

5 Q. So what is the Applicant supposed to do, since
6 it shows more than 30 hours? Can you give some
7 examples, please?

8 A. Sure. So examples could be modifying how a
9 turbine is operated. So you'll recall from this
10 slide that when flicker occurs is very
11 predictable.

12 So if we know that we are in a period
13 where -- in a nonparticipating receptor with
14 more than 30, that we are coming up on one of
15 those times where we start to exceed 30, we
16 could, for example, curtail operation of a
17 turbine to keep it below 30.

18 There are a number of options here that I
19 have listed on the bottom that we have seen
20 implemented in the past. That's just one
21 example.

22 Q. Okay. And so essentially then you can shut
23 down the turbine for the period when the shadow
24 flicker is predicted, correct?

1 A. Yes.

2 Q. To eliminate shadow flicker on a particular
3 day?

4 A. Yes.

5 Q. But there are other ways to avoid shadow
6 flicker that you covered, correct?

7 A. Correct.

8 Q. So would another way potentially be slightly
9 moving the turbine?

10 A. Yes.

11 Q. And so that's a possibility as well?

12 A. Absolutely.

13 Q. Okay. But bottom line is, the project will not
14 be able to produce more than 30 hours of shadow
15 flicker on an annual basis for those six
16 residences, correct?

17 A. Correct.

18 Q. And in your opinion, is the project capable of
19 doing that without significant effort?

20 A. Yes.

21 Q. All right. How do we know that the shadow
22 flicker is occurring once the project is
23 operational?

24 A. The operations staff will have all of this

1 information and the models that were produced
2 and will know exactly when and where shadows
3 could occur and will monitor that from -- or as
4 an operations team and keep tabs on it.

5 Q. And is that difficult to do?

6 A. No. It's very simple.

7 Q. Can you explain to me how it's done?

8 A. Sure. It can be as basic as a pencil and a
9 notepad and taking note of when they're
10 occurring. I have seen more sophisticated
11 programs that people have implemented for
12 tracking. It all depends on the operator.

13 But those become means and methods at some
14 point. They all end in the same result.

15 Q. And the result is keeping more than 30 hours
16 per year of shadow flicker on any particular
17 receptor, correct?

18 A. Correct.

19 Q. Okay. Thank you. Please continue.

20 A. Okay. That was shadow flicker. Let's talk
21 about decommissioning, which is Appendix P to
22 the application.

23 We put together a decommissioning plan and
24 decommissioning cost estimate. The purpose of

1 each was to estimate what the cost would be to
2 remove the project, in accordance with the
3 Ordinance and the AIMA, at the end of its useful
4 life, whenever that happens to be, and return
5 the site to effectively a preconstruction-type
6 condition, or as it looks today.

7 Similar to the shadow flicker study, we
8 evaluated two layouts, one for GE and one for
9 Vestas, and took into account both Federal,
10 State and local requirements.

11 Similar to shadow flicker, there is no
12 Federal requirement related to decommissioning.
13 This is always at either a State, local or
14 none-of-the-above level.

15 In this case, at the State level, we are
16 controlled by the AIMA, the Agricultural Impact
17 Mitigation Agreement. And at the County level,
18 of course the Ordinance. Both of which require
19 that all equipment, structures and other
20 improvements above grade be removed, and all of
21 the same to a depth of 5 feet below grade be
22 removed at end of the useful life of the
23 project.

24 To do this, we took the anticipated layout

1 for the project and proposed design and we
2 plugged it into a model. This is a model that
3 we developed internally over the last 20 years
4 or so and have used across hundreds of
5 estimates, just like this, throughout the wind
6 industry.

7 What that does is, takes into account all
8 of the equipment, all of the labor, all of the
9 materials, all of the hauling, everything else
10 that goes into removing the project, and puts a
11 cost to it so that we can do a buildup and
12 determine what the total will be.

13 Burns & Mac didn't build this on our own.
14 We have consulted with demolition contractors
15 from across the country as we put these
16 estimates together and have continually refined
17 it after each one of these estimates that we put
18 together.

19 There are a number -- just like flicker, a
20 number of inputs that go into these models.
21 First, around labor and equipment, we use an
22 index called RS Means, which is an industry
23 standard for construction cost estimates, just
24 like this, and we true those up to a local site

1 index. Meaning, we take the cost within RS
2 Means and we index those to a local amount, so
3 that local labor rates, equipment rates, et
4 cetera are all taken into consideration and it
5 is as specific to this area as possible.

6 We call local landfills, and we determine
7 their ability to take the debris and other
8 materials that we get rid of and receive fees
9 for what that would cost from them to accept
10 that material. We build all of those into the
11 estimate.

12 And we also account for salvage. So there
13 is a significant amount of steel, aluminum,
14 copper within the turbines and other equipment
15 that support these projects. We account for
16 those based on a 12-month rolling average from
17 the American Metals Market. And account for the
18 total weight that will be salvaged and back out
19 the cost to get that to a local hub, in this
20 case Chicago, for salvaging those materials.

21 There are a number of other more general
22 assumptions that come into play. I already
23 mentioned that anything related to the project
24 less than or equal to 5 feet below grade will be

1 removed. Anything above grade -- structures,
2 equipment, other improvements -- will be
3 removed.

4 Anything that we can't recycle or reuse
5 will be taken to a landfill or other proper
6 disposal facility. Any of our steel, copper,
7 aluminum will be transported to a salvage
8 facility for recycling. And any disturbed
9 areas, so, for example, if we have to remove
10 something from the ground, we'll backfill that,
11 fine grade it and seed it to return it back to,
12 again, preexisting condition.

13 Two other items of note. Everything that
14 we consider here in terms of equipment, we have
15 not evaluated any level of resale. So for
16 example, a wind turbine, a transformer, et
17 cetera at the end of the useful life of this
18 project would still have an operating life left
19 in some of those units. Meaning, it would be
20 possible to resell it to another developer,
21 another vendor, et cetera.

22 We have not considered any of that. We
23 have assumed it's all disposed of properly. So
24 that makes the model more conservative, because

1 these values have not been accounted for.

2 We have also built in owner indirects;
3 meaning, costs for the Applicant in this case to
4 manage the decommissioning and the construction
5 effort that happens to oversee the engineering
6 and other costs that are going to occur on top
7 of all of the removal that will be happening at
8 that time.

9 All right. And then all of that comes
10 together in terms of a result, and we have
11 broken this down in three categories for the two
12 different layouts. So the first row of the
13 table is the GE layout. The second row of the
14 table is the Vestas layout.

15 We have a gross cost, which is the total
16 amount of labor, equipment, materials, et
17 cetera, that are required for each of those.

18 We have a credit that applies for scrap.
19 So that's all of the steel, copper, aluminum,
20 and the values that are assigned to those.

21 And then a net cost, which is gross, minus
22 scrap, that would come into play.

23 So for the GE layout, approximately
24 \$900,000 would be the total net cost to

1 decommission the facility. For the Vestas
2 layout, approximately \$45,000.

3 The reason for the significant disparity
4 comes into play with salvage value, on top of
5 the fact that there are less turbines. So
6 within the Vestas layout, you have fewer
7 turbines. Fewer turbines means fewer pads,
8 fewer roads, fewer things to remove. So the
9 cost becomes less.

10 The Vestas turbines, because of how they
11 have been designed by that manufacturer, have
12 significantly more salvageable material --
13 steel, copper, aluminum -- so the biggest
14 disparity between the two comes into play with
15 salvage value. That's why the net cost becomes
16 so different from one turbine to the next.

17 That's decommissioning.

18 All right. The last thing I'll speak to
19 you about is the engineer's certificate. Just
20 one slide on this one.

21 We prepare the engineer's certificate
22 because it is required by the Ordinance. What
23 the Ordinance requires is that a certification
24 that the tower and foundation design is

1 compatible with and appropriate for each tower
2 proposed to be installed, and that the specific
3 soils at the site can support the apparatus,
4 given local soil and climatic conditions.

5 So we have reviewed the two turbine
6 layouts. We have reviewed the structural design
7 of those turbines. We have reviewed the wind
8 resource; meaning, how hard and how often the
9 wind is blowing on that site and how compatible
10 each of these turbine models are.

11 It's important to note that not every
12 turbine model is suitable for every location.
13 Different wind flow regimes can affect the
14 turbine selection. So we have accounted for
15 that.

16 And we have looked at, for the last part
17 of that Ordinance requirement, the anticipated
18 foundation design. So as is typical for a
19 project that is this early, a final foundation
20 design has not been prepared. However, our
21 expectation is that that foundation design will
22 be a typical spread footing concrete foundation
23 that has been used thousands of times
24 successfully in the wind industry; that that

1 design will account for geotechnical conditions,
2 climatic conditions, wind flow, and other local
3 parameters.

4 Assuming that those things are true, which
5 we cannot anticipate a scenario that they
6 wouldn't be because we have never seen those not
7 be correct, then we have made the certification
8 that these turbines are suitable for this site
9 and have, therefore, provided their certificate
10 within the application.

11 Q. (By Attorney Barry:) And so you provided an
12 engineer's certificate that was included in the
13 application materials, correct?

14 A. Yes.

15 Q. And was that engineering certificate included
16 as Appendix O?

17 A. Yes.

18 Q. And did you sign the certificate?

19 A. I did sign the certificate.

20 Q. And again, that certificate communicates that
21 the proposed wind turbines are suitable for the
22 -- generally speaking, for the soil and the
23 locations that the turbines are proposed for in
24 this project, correct?

1 A. Correct, provided that as the design progresses
2 that those other considerations are taken into
3 account, which any engineering firm in the
4 industry would do.

5 Q. Thank you.

6 I would like you to -- unless you have
7 more to cover on the engineer's certificate, I
8 would like you to skip back to the first topic,
9 shadow flicker, and one of the slides that
10 showed the minutes.

11 That one right there. Thank you. The
12 modeling results.

13 So earlier you stated that it's pretty
14 easy to monitor whether shadow flicker is
15 occurring by the O and M staff, correct?

16 A. Yes.

17 Q. But does that require someone to go out and
18 stand by the receptors to observe the shadow
19 flicker in person?

20 A. It does not.

21 Q. And can you explain why it doesn't require
22 someone to actually observe it with their
23 eyeballs?

24 A. Sure.

1 So the first thing that the operations
2 team would determine is, is today, whatever day
3 that we're talking about, anecdotally, is today
4 a day that shadow flicker could occur? Is the
5 turbine operating? Is the sun even shining?
6 Are any of those four things that I told you on
7 the very first slide, are they true?

8 If so, they know geometrically that
9 flicker can only occur at a given time, in a
10 given season. So, for example, there would be
11 no necessity in this scenario to pay any
12 attention from 6:00 a.m. until approximately
13 5:00 p.m., because geometrically shadow flicker
14 cannot occur at this receptor.

15 But provided those other things are
16 true -- the turbine is operating, the sun is
17 out, the wind is blowing, et cetera -- the
18 operator would know that today is a day that
19 flicker can occur, they would add a note to the
20 ledger of "this many minutes have occurred on
21 this day," and they would continue to keep that
22 ledger over the period where shadow flicker can
23 happen.

24 Q. But how would they know how many minutes of

1 flicker occurred that day without going to the
2 receptor and visiting -- going to its location
3 and observing?

4 A. They would generally make a conservative
5 assumption that the full breadth of this blob,
6 so to speak, that represents the turbine causing
7 flicker, that the full breadth of that is
8 happening.

9 So if this model said 30 minutes could
10 happen on this particular day, if those
11 conditions are true, they would assume
12 30 minutes are happening. Could it be less? Of
13 course. Would that make it conservative? Of
14 course.

15 But that's the general assumption they
16 would make.

17 Q. So if I were working at the O and M building, I
18 could -- it looks like there's some shadow
19 flicker, according to this particular receptor,
20 that might occur during early March; is that
21 correct?

22 A. Yes.

23 Q. And so I could identify that day in early March
24 and, for example, look to see whether it's sunny

1 in the -- during the evening on that particular
2 day, correct?

3 A. Correct.

4 Q. And I could take your results here from your
5 study for this particular reception -- receptor,
6 and I would -- if it's sunny that day, at that
7 particular time, I would simply log the number
8 of minutes that your study predicts on that day,
9 correct?

10 A. Sunny and the turbine is operating, yes.

11 Q. Excellent point. Thank you.

12 I assume then I could do that for -- I
13 think earlier you said your report includes a
14 similar graph for every receptor that was
15 examined as part of the project?

16 A. It does.

17 ATTORNEY BARRY: Okay. Thank you.

18 Judge, I don't think I have any more
19 questions for the witness at this time.

20 JUDGE SLAVIN: All right.

21 Ms. Donarski, any questions?

22 MS. DONARSKI: I do have some questions.

23 EXAMINATION

24 BY MS. DONARSKI:

1 Q. First of all, Aaron, do you have a copy of this
2 PowerPoint presentation that you're going to put
3 in the record as an exhibit?

4 A. Yes.

5 Q. Okay. That was my first question.

6 Okay. I was trying to write and listen at
7 the same time, so did I hear you say that shadow
8 flicker is more likely to occur in the spring
9 and fall and less likely in winter and summer?

10 A. Yes.

11 Q. Okay. I just wanted to go over that.

12 So in that -- in your study, how -- about
13 the regulated turbine operation, you said that
14 was one of the possibilities that they could
15 mitigate if it was more than 30 hours. How is
16 that done?

17 A. So the -- a turbine works through simple
18 aerodynamics. Just like an airplane when wind
19 passes over the blade, it creates -- or over the
20 wing, it creates lift. The exact same thing
21 happens on a wind turbine.

22 The reason I tell you that is, if it's
23 determined that we want to turn the turbine off
24 for a period of time, they simply rotate the

1 blade and the turbine will stop spinning because
2 no more lift can occur. Effectively
3 instantaneously, no more than a second or two,
4 the turbine can go from full speed to full stop
5 and they could cease operation. And they can do
6 that remotely from the operations building.

7 Q. And is there a person that's monitoring, or is
8 this, like, monitored by AI? Or how does that
9 work?

10 A. Yeah, there is software that can be used, but
11 we have a number of clients who have done this
12 with a person, where they keep track.

13 The important thing to note is that it's
14 above 30. In most cases when we have a receptor
15 that's nonparticipating above 30, generally it's
16 only a handful of hours. So we're not watching
17 for an additional 30, 50, hundred hours per
18 year. We're watching for three or five or ten
19 at most.

20 Q. Okay. So on your list of -- on your chart in
21 Section M, you do have some participating and
22 nonparticipating -- like, it tells the receptor
23 name, and whether they're participating or
24 nonparticipating, and then the proposed duration

1 for both layouts.

2 Do the nonparticipating property owners or
3 receptors, are they aware that they are in an
4 area where they could get more than 30 hours of
5 shadow flicker?

6 A. They would have access to the report in terms
7 of additional conversation on that order.

8 Q. Okay. So if someone had a question on which
9 receptor name or number they were, how would
10 they determine that to say, "Oh, my house is
11 Receptor 25," or whatever? How would you know
12 that? How is that determined?

13 A. Yeah, so we intentionally, for privacy, don't
14 list all of the names in the report, but they
15 could contact the Applicant and determine their
16 exact receptor number.

17 Q. Okay. That's all mine on the shadow flicker
18 for right now.

19 On the decommissioning section of that,
20 how are the wind turbines proposed to be
21 removed? Would that be a crane method or a
22 tilt-fall method, or what kind of method are you
23 looking at for those figures?

24 A. Great question. We are assuming a crane will

1 come in and disassemble those piece by piece,
2 which is the most conservative way.

3 When other projects have been
4 decommissioned, we have seen both a felling
5 method, where it's effectively cut at the bottom
6 and allowed to fall, or the crane method. The
7 crane method is a bit more predictable but a bit
8 more expensive.

9 So that's why we assume that one within
10 our report, for a more conservative estimate.

11 Q. Okay. Now, how is the foundation removal?
12 What method is used? Is it blasted or dug out?
13 Or how does that work?

14 A. Yeah, generally they have dug out around the
15 pedestal, that you can see sticking up through
16 the soil, usually 6 inches or so of concrete
17 there at the very top. So they would excavate a
18 bit around that, and then generally use a dozer
19 or a combination of a dozer and hot saws and
20 other things to rip that down to at least
21 5 feet.

22 Q. So on those cost estimates, does the -- were,
23 like, the cost of the personnel to run that
24 equipment and the dozers and the diggers and

1 whatever you would need, is that included in
2 there or is that additional, on top of this?

3 A. All included.

4 Q. Okay. So when the company is proposing the
5 decommissioning amount, are they proposing the
6 gross cost or the net cost?

7 A. The net cost.

8 Q. So how does that work, when the cost of scrap
9 is so volatile and changes, fluctuates so
10 much --

11 A. Sure.

12 Q. -- how is that covered?

13 A. So I believe over the life of the project that
14 this study is revisited periodically and then
15 those numbers are accounted for. That's exactly
16 the reason that we don't use a spot price from
17 the most recent month. We use a rolling average
18 from the previous year.

19 So if and when this study were to be
20 updated, those numbers could be accounted for at
21 that time.

22 Q. Okay. That's my questions on the
23 decommissioning.

24 On the engineer's certificate, so when is

1 that final foundation design determined?

2 A. Generally anywhere from a couple of months to
3 multiple months prior to construction starting.
4 Foundations are typically one of the first
5 things that happen, so it will be very early in
6 the process.

7 I believe foundation designs are ongoing
8 right now. In terms of exact timing, I'm not
9 aware. But prior to breaking ground.

10 Q. So is there more than one type of foundation
11 that's typically used in a project of this size,
12 depending on the soil types?

13 A. There can be. Generally they're not
14 drastically different designs or shapes, per se.
15 They are different sizes.

16 So if you were in an area with high
17 groundwater or weak soil, you may have a wider
18 foundation than an area that was much better for
19 those things.

20 But in terms of shape and configuration,
21 generally the same throughout.

22 Q. And approximately -- is there, like, an average
23 size, like an average width for spread foot
24 foundation in soil types like we have here in

1 Bureau County?

2 A. Yeah, so we -- it will vary a lot by the
3 turbine model because of how large and heavy
4 that they are.

5 We have generally seen -- so you'll have a
6 round concrete pedestal at the top. Those
7 are -- that's the part you can see up above the
8 soil. Those are usually anywhere from 16 to
9 20 feet in diameter. That's usually 4 or 5 feet
10 tall, that cylinder.

11 And then when you get to the bottom, it
12 becomes more of an octagon shape and spreads
13 out. That can be anywhere from 60 to 80 feet in
14 most cases. So if soils were weak, it's
15 probably on the upper end. If soils are strong,
16 maybe a little bit lower.

17 Q. Okay. And then how deep typically do they go
18 for those?

19 A. Again, it varies a bit. I can't recall seeing
20 one deeper than 12. Usually on the order of 10
21 or 11. But in the 10- to 12-foot range total
22 height.

23 Q. In some other projects in our area, they have
24 used a different type of foundation that's,

1 like, maybe 30 feet deep or something like that.

2 A. Yes.

3 Q. Is there the possibility of having to use that,
4 depending on soil types in this project?

5 A. It could be. That would generally require the
6 presence of more rock to be present, for those
7 to be practical. So it's not impossible, but I
8 would say it's unlikely.

9 MS. DONARSKI: Okay. That's my questions.
10 Thank you.

11 JUDGE SLAVIN: Mr. Welbers?

12 MR. JENSEN: No, sir.

13 JUDGE SLAVIN: Mr. Jensen?

14 MR. JENSEN: No questions.

15 JUDGE SLAVIN: Mrs. Smith?

16 MS. SMITH: Yes, I do have some.

17 EXAMINATION

18 BY MS. SMITH:

19 Q. Starting out with the shadow flicker --

20 JUDGE SLAVIN: Ms. Smith, would you talk
21 into the mic?

22 MS. SMITH: I'm sorry.

23 JUDGE SLAVIN: That's okay. It's hard, I
24 know.

1 MS. SMITH: Can you hear me okay?

2 JUDGE SLAVIN: Yes, I can.

3 MS. SMITH: Usually I speak very loudly.

4 Q. (By Ms. Smith:) When conducting your meetings
5 with the communities prior to a project -- I
6 know you have several with the people that live
7 in the communities -- do you discuss anything
8 about the shadow flickers, the possibility, how
9 it works, so that people have some kind of an
10 idea what shadow flicker even is or how it could
11 affect them?

12 A. Yeah, I can't speak to that in this case
13 because we did ours from a desktop basis. So we
14 didn't speak to community members as part of
15 this study, which is typical in my experience.
16 That would have come through the Applicant, any
17 of those conversations.

18 Q. Okay. So it's a possibility that they have
19 been spoken to or they know about it, but you're
20 not able to testify to that?

21 A. Correct.

22 Q. Going to the information that you folks
23 provided to us in Subsection M, I guess it is.
24 I was looking through the different ones that

1 you have shadow flickers, nonparticipating and
2 participating, starting with C2, Revision 0.

3 A. Yes.

4 Q. Okay. H36, I believe it is, nonparticipating,
5 30. The shadow flicker duration though would be
6 41.45 before mitigated; is that correct?

7 A. At receptor H36?

8 Q. H36, regarding GE.

9 A. In the GE layout, correct --

10 Q. Okay.

11 A. -- the unmitigated duration would be
12 41.45 hours.

13 Q. And 36.55 for the Vestas?

14 A. Yes, ma'am.

15 Q. But those people don't know anything about that
16 because -- I mean, how do they know that's going
17 to happen? They are nonparticipating, correct?

18 A. Could you -- they are nonparticipating. Could
19 you rephrase the question?

20 Q. These people are nonparticipating, they haven't
21 had any connection with the project or anything,
22 and you're going to come in and have a unit
23 there, and they may have this shadow flicker and
24 they don't know anything about it.

1 How do they become aware that there's a
2 possibility that that's going to happen so that
3 they would know what's going on?

4 A. I see.

5 I think that's similar to the question
6 that was asked a bit ago, where we provided the
7 duration for every single receptor --

8 Q. I understand.

9 A. -- without name.

10 Q. I understand.

11 A. So if they are curious about which one
12 correlates to their home, the best course would
13 likely be to contact the Applicant. They should
14 already have access to this report, however.

15 Q. And do you feel that everyone that receives
16 that information is going to know what this is
17 all about and how it works?

18 A. I --

19 Q. They aren't involved, I mean --

20 A. I can't speak to -- yeah.

21 Q. Okay. Why is there no information given to the
22 participating, the same? I mean, there is one
23 in here, let's see --

24 JUDGE SLAVIN: Well, let's ask one

1 question at a time.

2 MS. SMITH: I'm sorry. That's what I was
3 referring to. I'm trying to see which one I was
4 speaking to.

5 Q. (By Ms. Smith:) H132 is participating,
6 73.32 minutes would be the duration of the
7 shadow flicker, and when it's mitigated it would
8 still be the same.

9 Then the duration for -- this was for the
10 GE.

11 And the duration for the other unit would
12 be 7.20. I don't understand that.

13 A. Sure. So that's likely a function of the
14 number of different turbines. So you'll recall
15 that we modeled 44 turbines in the Vestas layout
16 and 50 in the GE. So it would make sense that
17 the GE would have the potential for more flicker
18 to occur because there are more turbines
19 potentially causing it.

20 So this one would have an additional
21 turbine nearby in the GE layout that the Vestas
22 layout may not have.

23 Q. Okay. I understand that.

24 So the bigger diameter Vestas, they're

1 going to throw a shadow that's wider and it's
2 also going to be a longer shadow.

3 So is that all taken into consideration,
4 that someone farther away is going to have -- be
5 involved with that shadow?

6 A. It is.

7 I would note that it won't be wider. The
8 blade width is effectively the same on both of
9 those machines. The blade length is longer on
10 the Vestas. So the length of the shadow could
11 be longer, but the width of the shadow itself is
12 basically the same.

13 In either case, we have modeled both in
14 exactly that way. So it is accounted for.

15 Q. So I'm not quite sure I understand. So the
16 Vestas models have -- they are a bigger unit?

17 A. They have longer blade.

18 Q. Their blades are longer?

19 A. Yes.

20 Q. And that doesn't account for the longer shadow,
21 or it does?

22 A. It does. Yes, we have accounted for that.

23 Q. It does account for the longer shadow?

24 A. Yes.

1 It was only the width I was referring to
2 that's a bit different.

3 Q. Okay. So if a participating person has issues
4 with the shadow flicker, how do they go about --
5 because, you know, you're working with
6 nonparticipating, and there's nothing changed on
7 your charts with the participating ones. How do
8 they go about getting that correct with them?

9 A. I'm not sure what I --

10 Q. How do they go about getting it mitigated?

11 A. If they wanted to mitigate or just be aware or
12 receive information, those would be
13 conversations with the Applicant.

14 Q. So everything comes with the Applicant. You're
15 not aware, all right.

16 Going to the decommissioning, have you
17 ever decommissioned a project?

18 A. Personally I haven't, but I --

19 Q. Has the company -- are you aware if the company
20 has decommissioned the project?

21 A. Our company does not physically perform the
22 construction act, but we have prepared many of
23 these estimates, including in Illinois and
24 including projects that have been

1 decommissioned.

2 For example, we did the estimate for
3 Mendota, for Crescent Ridge, for a number of
4 others.

5 Q. Why have you made the decision, with regard to
6 decommissioning, not to use the imploding system
7 that we have seen used around here on occasion?
8 Why would you not use that?

9 A. Are you talking about how they --

10 Q. Decommission.

11 A. -- knock the turbine itself down?

12 Q. The turbine down, right.

13 A. I see.

14 Because we feel that the approach with the
15 crane is more costly and conservative. So we
16 wanted to model the more conservative economics.

17 Q. I see. I follow you. All right.

18 MS. SMITH: I think that's all I have.

19 Thank you very much.

20 THE WITNESS: You're welcome.

21 JUDGE SLAVIN: Mr. Forristall?

22 EXAMINATION

23 BY MR. FORRISTALL:

24 Q. Does the direction of the wind --

1 JUDGE SLAVIN: Microphone. The people in
2 back can't hear you unless you --

3 Q. (By Mr. Forristall:) Does the direction of the
4 wind affect the flicker? So say most of it
5 comes out of the west. I mean, if it's coming
6 out of the south or the north, does the blade --
7 or the turbine turn?

8 A. Yes.

9 Q. Okay. And that's how?

10 A. We have accounted for that in the form of the
11 wind rows for the site.

12 So I forget the exact numbers, but for
13 example, in a site like this what we would
14 generally see is that the prevailing wind
15 direction -- and there's normally two, let's say
16 southwest and northeast -- that it would come
17 from those directions an overwhelming majority
18 of the time; 70 percent, let's say.

19 But we have modeled, based on actual data
20 from a neighboring site, what direction those
21 have come from historically and taken that into
22 account here.

23 MR. FORRISTALL: Okay. Thank you.

24 JUDGE SLAVIN: You have to tell me when

1 Q. And where?

2 A. It is dated on the first page and on the seal
3 that you can see.

4 Q. So you're not displaying the one that's --

5 A. This is just a snippet of a three-page
6 document.

7 Q. Okay. Thank you.

8 And that's not sealed by you, but by
9 another professional engineer; is that correct?

10 A. Correct.

11 Q. And that certificate just deals with
12 foundation, design and vis-a-vis the turbine
13 that would be placed on it; is that correct?

14 A. We have considered both the turbine equipment
15 and the foundation.

16 Q. All right. How about the State Statute that
17 the Ordinance refers to requiring an engineering
18 seal on engineering studies, is that available
19 for the decommissioning plan?

20 A. It will be. So the -- I will be --

21 Q. Is it on the decommissioning plan?

22 A. Not currently.

23 Q. Okay. Is it on the shadow flicker plan?

24 A. No.

1 Q. Okay. And -- okay. Thank you.

2 And the last question is this: Following
3 up on Mr. Barry's questions, when you're talking
4 about the O and M employees dealing with the
5 shadow -- the actual shadow flicker on any -- at
6 any given time -- let's take a step back.

7 Would you agree that it's scientific
8 methodology, when you're going to do a project,
9 to predict the outcome based on some formula?
10 Would you agree with that? That's the first
11 step you take; is that correct?

12 A. Yes.

13 Q. Then in real life, you test that, right?

14 A. Yes.

15 Q. So would you agree that the WindPro modeling
16 is, in effect, the first step? You are
17 predicting the result?

18 A. With the clarification that the modeling has
19 been verified by both us and the vendor of that
20 software.

21 Q. Okay. Understanding that, why is there not a
22 real-life test of that modeling?

23 A. Because when we verify something like noise,
24 it's a fairly short, concise, prescriptive test

1 that can be done in a handful of days, for
2 example.

3 To verify shadow flicker would take on
4 site presence over an entire calendar year at
5 numerous locations. So that level of
6 verification for a result that we have already
7 demonstrated confidence in would not be
8 practical, in my opinion.

9 JUDGE SLAVIN: Okay. Interested Parties?

10 I saw the gentleman in the checkered shirt
11 with his hand raised first. Why don't you step
12 up.

13 And everybody, I'll just remind you,
14 please start with your name and spell your
15 surname for us before you even begin.

16 MR. SASH: Bob Sash, S-A-S-H.

17 EXAMINATION

18 BY MR. SASH:

19 Q. Did I understand your testimony to essentially
20 say that if I decide at sometime in the future
21 to build a home on my land that I would not be
22 protected by this 30-minute -- or 30-hour-a-year
23 flicker prohibition?

24 A. I didn't speak to that.

1 Q. You implied --

2 JUDGE SLAVIN: Now you're telling him
3 things. It's tough. I understand it's tough.

4 Q. (By Mr. Sash:) So what is the answer?

5 A. The answer is, I didn't speak to or imply that
6 that would be the case.

7 Q. Would it be the case? If I build a home on my
8 land --

9 JUDGE SLAVIN: Just stop right there. You
10 asked a good question: Would it be the case?

11 A. This result is based on what exists today. So
12 in terms of what happens in the future and how
13 those are modeled, I can't speak to.

14 Q. (By Mr. Sash:) So I'm prohibited from ever
15 being protected by that State Statute if I
16 decide I want to build a home on property that I
17 have held for 20 years with the intention of
18 building a home there?

19 A. No, that is not what I said. I said that this
20 study doesn't consider what may or may not be
21 built in the future.

22 Q. Do you know the law?

23 ATTORNEY BARRY: Objection to the extent
24 it calls for a legal conclusion.

1 JUDGE SLAVIN: This gentleman is not
2 testifying as an expert in law, Mr. Sash.

3 MR. SASH: Okay. Thank you.

4 JUDGE SLAVIN: Yes. I see a hand raised
5 in the back. I think it's Ms. Stetson.

6 EXAMINATION

7 BY MS. STETSON:

8 Q. Could you tell me how far the flicker goes
9 again? It's hard to hear with the air
10 conditioner back here.

11 A. Sure.

12 So we take the rotor diameter. So in the
13 case of a Vestas turbine, the rotor diameter tip
14 to tip is 163 meters, we multiply that by 10,
15 and that's the distance that we allow it to go,
16 1,630 meters. That is approximately 5,300 feet.
17 A little more than a mile.

18 Q. So over -- you're stating over a mile flicker?

19 A. I'm not saying it will occur. I'm saying
20 that's how far we conservatively model.

21 We don't expect the shadow to actually
22 propagate that far. It's just a conservative
23 view.

24 Q. So are you aware that Buda let the turbines

1 come within the mile and a half? Are you aware
2 of that? And the -- and are you aware that --

3 JUDGE SLAVIN: One at a time.

4 Q. (By Ms. Stetson:) Okay. Are you aware of
5 that?

6 A. Am I aware that turbines are within a mile and
7 a half of a home?

8 Q. Buda.

9 A. Oh, yes.

10 Q. Okay. I believe -- are you aware it's
11 approximately 0.8 miles? Like, real close. Are
12 you aware how close it is?

13 A. I don't know the distance from that town to the
14 nearest turbine.

15 Q. Are you aware that there's two homes in the
16 middle there between the turbines and the town
17 and -- this flicker --

18 Do you believe that this flicker would
19 affect the people in Buda, since it's over a
20 mile of flicker?

21 A. So there were two questions, one about the
22 homes. If there are homes within that --

23 Q. Nonparticipating homes.

24 JUDGE SLAVIN: Don't interrupt him. You

1 asked a question. Don't interrupt him, please.

2 A. If there are homes within the 10 rotor diameter
3 buffer, we have modeled those, including those
4 two.

5 In terms of affecting the town, whether
6 Buda or anywhere else, if it goes further than
7 10 rotor diameters from a turbine, we are not
8 including any flicker effects from those
9 machines on those residences. Because the light
10 diffuses, it's not perceptible, you can't see it
11 anymore, there is no shadow at that point.

12 Q. (By Ms. Stetson:) Do you know who the
13 nonparticipating landowners are that this is
14 going to affect?

15 A. We know in our report which ones are listed as
16 nonparticipating, and that can be found in the
17 table of the report.

18 Q. Exactly. But do you know who they are?

19 A. Do I know them personally?

20 Q. No. Do you know the names?

21 A. Not offhand, but the Applicant does.

22 Q. So the Applicant could give me a copy of who
23 this is going to affect? Because I do
24 believe -- do you believe it will be --

1 JUDGE SLAVIN: Just ask a question.

2 MS. STETSON: Okay.

3 JUDGE SLAVIN: You're telling him things
4 again.

5 MS. STETSON: I'm sorry.

6 JUDGE SLAVIN: Just ask a question.

7 MS. STETSON: I'm sorry.

8 JUDGE SLAVIN: It's all right.

9 A. I don't know what receptor number your home is,
10 ma'am, so I couldn't say.

11 JUDGE SLAVIN: She didn't ask about her
12 home. You answered the question.

13 Let's start over. Ask the question.

14 Q. (By Ms. Stetson:) Are you aware that I will be
15 one of them, and are you aware that this
16 gentleman behind me will be another that will be
17 affected by this flicker?

18 A. No.

19 Q. Well, I'm telling you that we will be.

20 JUDGE SLAVIN: Well, don't tell him
21 anything. Just a question.

22 Q. (By Ms. Stetson:) So can we get a list of the
23 people that this is going to affect?

24 A. I would have to defer the question to the

1 Applicant, because I -- I don't have that, and I
2 don't have the ability to share that information
3 if I did.

4 Q. So can you ask the Applicant to give us a copy?
5 The nonparticipating, can they send us a copy?

6 A. I think that that would be left to any
7 Interested Parties that would want it, to make
8 that ask.

9 Q. So I can ask them now?

10 JUDGE SLAVIN: He's --

11 A. I can't speak for them. I'm a third party.
12 I'm here presenting these results. In terms of
13 what they do or don't do, I can't speak to.

14 Q. (By Ms. Stetson:) Are you aware that there was
15 no meeting with the community to discuss the
16 flicker or the turbines?

17 A. No.

18 Q. There was none.

19 JUDGE SLAVIN: You're telling him things
20 again.

21 Q. (By Ms. Stetson:) Do you know the only reason
22 we knew about this is through the ZBA --

23 JUDGE SLAVIN: You're telling him things
24 again.

1 Q. (By Ms. Stetson:) Are you aware that the only
2 reason we found out about these turbines in our
3 area is through the Zoning Office sending us the
4 pamphlet? Are you aware of that?

5 A. No.

6 Q. So you do understand that the community did not
7 know?

8 A. I don't -- I don't know how to speak to that,
9 ma'am.

10 Q. How are the complaints handled again?

11 A. I'm not aware. I'm not sure in this case how
12 complaints would be handled.

13 Q. How can a nonparticipating landowner complain
14 about flicker to this company?

15 A. During operation, while it's happening?

16 Q. During the flicker.

17 A. So presumably through the Zoning Board or
18 through the County or to the Applicant
19 themselves.

20 Q. Is there any way that these can be turned away
21 from the homes so there would not be flicker to
22 the nonparticipating?

23 A. That's not what the Ordinance requires.

24 JUDGE SLAVIN: That's not the question.

1 Answer the question, please.

2 A. Can they be turned? Yes.

3 Q. (By Ms. Stetson:) When?

4 A. At any minute.

5 Q. So --

6 A. They follow the wind.

7 Q. So you can turn them so they can never flicker
8 on a house?

9 A. What you're asking for is that they never
10 operate, and at that point you've just got --
11 you have got yard art.

12 Q. So you're -- are you stating that it's okay for
13 the nonparticipating to get these shadow
14 flickers?

15 A. I'm not stating what is or isn't okay. I'm
16 only sharing the results and what's possible
17 with the machines.

18 Q. So you're saying that the nonparticipating
19 landowners have to put up with them?

20 A. I'm saying that according to these results, we
21 will comply with the Ordinance -- that the
22 Applicant will comply with the Ordinance.

23 Q. So you're saying that you're not going to help
24 the people that live in this area?

1 A. That's not what I'm saying.

2 Q. It kind of sounds like it.

3 JUDGE SLAVIN: Don't tell him things.

4 Please stop that.

5 MS. STETSON: I'm sorry.

6 Q. (By Ms. Stetson:) A question about the 30
7 hours. You had -- how did you state that, that
8 it's going to be a person controlling that, the
9 30-hour count?

10 A. That one potential way that it could be
11 monitored is by a human being.

12 Q. What's the other?

13 A. There are ways ranging from a human being to
14 software they can use.

15 Q. How often does a human being go around and
16 check that?

17 A. We talked about that. It's not necessary to go
18 around and check. They would have the
19 calendars, that they would know when flicker
20 could occur and could monitor that way.

21 MS. STETSON: I think that's all I have.

22 JUDGE SLAVIN: Okay. Thank you.

23 Any other Interested Parties?

24 Orange shirt I saw first.

1 MR. BROMME: Me?

2 JUDGE SLAVIN: That's orange, or salmon.

3 Start with your name, and spell your last
4 name, please.

5 MR. BROMME: Steve, and then B-R-O-M-M-E,
6 Bromme.

7 EXAMINATION

8 BY MR. BROMME:

9 Q. I just had a couple questions on the
10 decommissioning. I may not have heard, but were
11 the costs on today's dollars?

12 A. Yes.

13 Q. Okay. So shouldn't you have put a factor in
14 there for inflation and everything else that
15 goes on in the next 20 years?

16 A. So we present them in current dollars because
17 we don't have a proverbial crystal ball to see
18 where those numbers could go up or down, whether
19 labor market or equipment market or anything
20 else. So we present current 2025 numbers and
21 let those stand on their own.

22 Q. Well, if you do that then how do you know how
23 accurate your estimate is? Because --

24 JUDGE SLAVIN: Don't say "because."

1 That's a good question, just leave it at that.

2 A. So we know the accuracy of the estimate because
3 we've seen the estimate implemented and projects
4 decommissioned that result in an actual cost
5 that was in line with our estimate.

6 Q. (By Mr. Bromme:) How long has your company
7 been making these estimates?

8 A. Two decades or more.

9 Q. So your company has actually seen -- because
10 you had said that you had not been involved with
11 any decommissioning, I believe I heard?

12 A. I have been in -- the question was whether I
13 have physically torn down a turbine. I have
14 not. But I have been involved in the
15 decommissioning of multiple projects.

16 Q. Okay. I guess that was my question. I
17 misunderstood what you said.

18 MR. BROMME: Thank you. That's all I had.

19 THE WITNESS: You're welcome.

20 JUDGE SLAVIN: Anybody else, hand raised?
21 Come on up, black shirt.

22 Start with your name and spell your last
23 name, please.

24 MR. HAWKINS: Craig Hawkins,

1 H-A-W-K-I-N-S.

2 EXAMINATION

3 BY MR. HAWKINS:

4 Q. You said you can model the shadow flicker. So
5 would it not be more courteous to let these
6 nonparticipating residents know ahead of time,
7 instead of letting them search out on a website
8 that they don't know about to find out about it?

9 A. I can't speak to how the information has been
10 conveyed to participants or nonparticipants, but
11 I can say that in terms of every receptor, when
12 we expect it to happen is in the report and
13 available to anyone who wants to go take a look
14 at it.

15 Q. Would you recommend to the Applicant that they
16 not place turbines where it will cause shadow
17 flicker to nonparticipating people's homes?

18 A. My job is not to recommend turbine locations,
19 but to model the results of the locations they
20 have selected.

21 Q. Talking about decommissioning, there was about
22 a \$6.1 million value on each one, depending on
23 which turbines you use. And the gentleman who
24 just asked a question about what our value of

1 our dollar is today compared to what it will be
2 in the future, do you know what the current
3 project length is before decommissioning the
4 project?

5 A. Yeah, they haven't assigned a life to the
6 project, although typically those are a minimum
7 of 20 years or more.

8 Q. Could they be up to 30 to 50 years, that we
9 heard in the last meeting?

10 A. It's possible.

11 Q. Have you -- since you have went through other
12 projects, do you know approximately how long a
13 project like this usually lasts so you can
14 determine how long this one will?

15 A. Most of the projects that have been
16 decommissioned were decommissioned between,
17 let's say, 10 and 15 years of operation because
18 machines got bigger or more efficient or there
19 was just some commercial reason to do so.

20 So most of the projects that this has been
21 considered for haven't actually gone that full
22 duration.

23 Q. When you say "decommissioning," are you talking
24 about the entire field of the wind towers or

1 just one?

2 A. When I'm talking about decommissioning in this
3 sense, I'm talking about removing all of the
4 wind turbines and the substation and the O and M
5 building, et cetera.

6 Q. Do you know -- you mentioned that the
7 6.1 million might be changed in the future
8 because of inflation.

9 A. I mentioned that these estimates can be revised
10 in the future and updated every so often.

11 Q. Do you know what the current amount is that
12 will be placed in some type of escrow to the
13 County for the decommissioning currently? Is it
14 that 6.1?

15 A. No, it would be the net cost, is the financial
16 assurance that's being discussed.

17 Q. So is the County responsible for the teardown
18 and transporting the materials to recycling
19 after the decommissioning?

20 A. There's no expectation, regardless of where
21 that cost lands, that the County is doing any of
22 that. The Applicant is bearing that risk and
23 expects to be the one to tear down the project.

24 Q. I was under the impression that the --

1 JUDGE SLAVIN: You're telling him things.

2 MR. HAWKINS: Sorry.

3 Q. (By Mr. Hawkins:) Will there not be moneys
4 given to the County for decommissioning?

5 A. They are set aside as an assurance for a
6 scenario where the Applicant could not fulfill
7 that obligation, but that does not mean the
8 Applicant does not intend to fulfill that
9 obligation.

10 Q. So does the Applicant control those moneys or
11 the County?

12 A. It would depend on the form that they took and
13 how those moneys were set aside, but they are
14 set aside at that point as an assurance.

15 So for an example, it could take the form
16 of a letter of credit to demonstrate that those
17 moneys are available. The Applicant doesn't
18 have the ability at their own discretion to just
19 go change or otherwise modify that LC if that
20 were to happen.

21 Q. But they could update that at the
22 decommissioning time?

23 A. They --

24 Q. The amount.

1 A. Uhm. . .

2 Q. When they find out how much it's actually going
3 to cost 20 years down the road.

4 A. If we were 20 years from now and ready to
5 decommission the project, yes, is the answer,
6 they could. Frankly, I'm not sure why they
7 would though. Because that money is there as a
8 backup, so to speak.

9 The company would be responsible for
10 tearing down and decommissioning the project,
11 regardless of what that cost was and what
12 financial assurance was set aside.

13 Q. Okay. So that account given to the County is
14 only for a backup and not used for the actual
15 teardown?

16 A. I don't believe there's any expectation that
17 the County goes and writes the check. I believe
18 that money is held in case, under some
19 unexpected circumstance, they had to write the
20 check.

21 Q. Is it in some kind of trust then with both
22 parties?

23 A. I think they're still discussing what that
24 assurance will look like. I don't know the

1 form.

2 Q. Understood.

3 MR. HAWKINS: Thank you very much.

4 THE WITNESS: You're welcome.

5 JUDGE SLAVIN: Thank you.

6 Other Interested Parties, by raise of your
7 hand.

8 (No verbal response.)

9 JUDGE SLAVIN: Seeing none, you may
10 step -- walk away/step down.

11 Want to re -- redirect real quick?

12 ATTORNEY BARRY: I have a couple quick
13 follow-up questions.

14 EXAMINATION

15 BY ATTORNEY BARRY:

16 Q. Mr. Anderson, does the decommissioning plan
17 that you discussed here tonight that's part of
18 the application comply with the Wind Energy
19 Siting Ordinance provisions in the Bureau County
20 Zoning Code?

21 A. It does.

22 Q. Does the decommissioning plan that you
23 discussed here tonight comply with the
24 Agricultural Impact Mitigation Agreement that

1 was referred to earlier this evening?

2 A. It does.

3 Q. Now, you mentioned the Crescent Ridge Wind
4 Project earlier, correct?

5 A. Yes.

6 Q. Where is that project located? What county is
7 it in?

8 A. Bureau County.

9 Q. Was Burns & McDonnell involved in the repower
10 and decommissioning portions of that project?

11 A. Yes.

12 Q. Were you involved and did you play some role in
13 connection with the repower and decommissioning
14 portions of that Crescent Ridge Wind Project?

15 A. Yes.

16 Q. Are you -- if you know the answer to this, were
17 wind turbines and wind turbine locations fully
18 decommissioned as part of the Crescent Ridge
19 repower?

20 A. I believe so, yes.

21 Q. And again, that was done here in Bureau County,
22 correct?

23 A. Yes.

24 ATTORNEY BARRY: That's all I have at this

1 time, Mr. Anderson.

2 I would like to ask that Mr. Anderson's
3 PowerPoint presentation be entered into the
4 record, and I have --

5 JUDGE SLAVIN: Done. I hope you have
6 eight copies.

7 ATTORNEY BARRY: I do.

8 And I believe that would be Petitioner's
9 Exhibit Number 3; is that correct?

10 JUDGE SLAVIN: I think you're right, but
11 let me check my list, please.

12 (Petitioner's Exhibit Number 3
13 marked for identification.)

14 JUDGE SLAVIN: And you may step down/walk
15 away, Mr. Anderson.

16 THE WITNESS: Thank you.

17 JUDGE SLAVIN: Got them all handed out?

18 ATTORNEY BARRY: Not quite.

19 JUDGE SLAVIN: All right. Let's take ten
20 minutes. We'll resume at approximately 20 to
21 8:00; 7:40.

22 (A recess was taken at 7:30 p.m.
23 and proceedings resumed at
24 7:40 p.m.)

1 JUDGE SLAVIN: Everybody return to your
2 places.

3 All right. Mr. Barry, you may continue.

4 ATTORNEY BARRY: Thank you.

5 At this time I would like to ask Evan
6 Markowitz to step up to the hot seat, or hot
7 stand.

8 JUDGE SLAVIN: Okay. Mr. Markowitz, want
9 to raise your right hand.

10 EVAN MARKOWITZ,
11 being first duly sworn, was examined and
12 testified as follows:

13 JUDGE SLAVIN: You may inquire, Counsel.

14 ATTORNEY BARRY: Thank you.

15 EXAMINATION

16 BY ATTORNEY BARRY:

17 Q. Good evening, Mr. Markowitz. Could you please
18 state your name for the record.

19 A. Evan Markowitz, E-V-A-N, M-A-R-K-O-W-I-T-Z.

20 Q. And can you tell us who you work for?

21 A. I work for Burns & McDonnell Engineering
22 Company.

23 Q. What is your --

24 JUDGE SLAVIN: Want to keep your voice up

1 for us, please? I know it's easy to do, and
2 that microphone is not all that sensitive, but
3 -- you don't have to swallow it, but you have to
4 stay close to it.

5 A. Burns & McDonnell Engineering Company,
6 Incorporated.

7 ATTORNEY BARRY: Of course right on cue
8 the air conditioning kicked on.

9 JUDGE SLAVIN: The air conditioning came
10 on.

11 Q. (By Attorney Barry:) What is your position
12 with Burns & McDonnell?

13 A. I am a project manager and a section manager in
14 our Natural and Cultural Resources Department.

15 Q. And are you familiar with the Braided Creek
16 Wind Project?

17 A. I am.

18 Q. Can you tell us a little bit about your
19 background before we get into Braided Creek?

20 A. Yes. I hold a BS in ecology and evolutionary
21 biology, and a Master's in environmental
22 engineering. I have worked in the environmental
23 consulting -- sorry.

24 I have worked in the environmental

1 consulting field, doing natural resources
2 assessments and permitting, for over 18 years
3 here in Illinois.

4 And I have been a project manager in
5 pre-construction surveys and permitting for
6 renewable energy projects, including wind
7 projects, within Illinois and the surrounding
8 states.

9 Q. And so have you consulted in connection with
10 wind energy projects previously?

11 A. Correct.

12 Q. And on how many occasions?

13 A. Three projects in Illinois, and six or seven
14 projects total.

15 Q. Okay. Thank you.

16 And again, are you familiar with the
17 Braided Creek Wind Energy Project?

18 A. I am.

19 Q. And what did -- what connection do you have to
20 the Braided Creek Wind Energy Project?

21 A. My team was scoped with conducting the desktop
22 wetlands, archeology and architectural studies,
23 as well as desktop stormwater permitting.

24 JUDGE SLAVIN: I didn't hear the last

1 thing.

2 THE WITNESS: A desktop for stormwater
3 permitting.

4 Q. (By Attorney Barry:) Okay. So do you have a
5 PowerPoint presentation?

6 A. I do.

7 Q. Could you please take us through that at this
8 time?

9 A. Sure will. Thank you.

10 As I have stated, we have completed
11 desktop studies. We did a desktop wetlands and
12 stream assessment, as well as desktop protected
13 species review and a cultural review, which
14 included review of archeology and architectural
15 data. Part of those, too, for protected species
16 and cultural consisted of consultations.

17 I'll mention also that field studies will
18 be conducted to confirm these desktop results.

19 Q. And will Burns & McDonnell be conducting those
20 field studies?

21 A. That is my understanding.

22 Agency consultations, how were these
23 completed? U.S. Fish and Wildlife Service were
24 completed for federally-listed species. It was

1 conducted through the Information for Planning
2 and Consultation, the IPaC, which is a website
3 on Fish and Wildlife Services' web page.

4 We initiated this consultation, along with
5 the others, to comply with the Ordinance for
6 this. Through the IPaC, we were able to obtain
7 an official species list, is what Fish and
8 Wildlife calls it, which is a list of protected
9 federally-threatened endangered species that
10 have a potential to occur within the vicinity of
11 the project, as well as species that may be
12 protected under the Bald and Golden Eagle
13 Protection Act and the Migratory Bird Treaty
14 Act.

15 It is my understanding that another
16 consultant is conducting an avian impact study
17 for this project.

18 Consultation for State-listed threatened
19 and endangered species was conducted through the
20 Illinois Department of Natural Resources, the
21 Ecological Compliance Assessment Tool, EcoCAT.

22 For both the EcoCAT and the IPaC, those
23 are both web based. So we enter information
24 about the project, including the physical

1 location of it, and submit that and we get back
2 a database report.

3 Q. So you submit information online to U.S. Fish
4 and Wildlife Service and you get a report back,
5 correct?

6 A. Correct. As I mentioned, we get the official
7 species list through the IPaC.

8 Q. And the same -- similar approach for the EcoCAT
9 with IDNR; is that correct?

10 A. Yes. They don't have a specific name for it,
11 but it will list the protected species or
12 habitats or lands.

13 Q. And again, the information is inputted into the
14 Assessment Tool for the Illinois Department of
15 Natural Resources and you get information back,
16 correct?

17 A. Correct. They are pretty much web-based
18 systems, where you draw a polygon around your
19 limits of disturbance where your project area
20 is, and I would imagine it goes back to their
21 database and pulls the information from the
22 database, their known elements of occurrence
23 within the project area, as well as the vicinity
24 of it.

1 Q. Now, I think you mentioned earlier that you did
2 some of these studies in order to comply with
3 the County's Zoning Ordinance, correct?

4 A. Correct.

5 Q. And I guess I'll specifically ask whether your
6 studies were designed to comply with the
7 ecological requirements, or some of them, in, I
8 believe, it's Subsection 6 of the Wind Energy
9 Siting Ordinance?

10 A. Yes, it was.

11 An Agricultural Resources Desktop Review
12 was conducted through the Illinois Department of
13 Natural Resources as well, the State Historic
14 Preservation Office, a licensed archeologist
15 that had access to the State's database was
16 used, and the initiated consultation with the
17 SHPO Office.

18 Q. Similarly, was that consultation designed to
19 comply with Subsection 7 in the Wind Energy
20 Siting Ordinance with the title of "Historic
21 Resources Preservation"?

22 A. It was.

23 I'll mention that both the EcoCAT and SHPO
24 consultations are also required to comply with

1 the State Construction General Stormwater
2 Permit.

3 So the desktop review for wetlands helped
4 us understand where potential wetlands and
5 surface waters are, and therefore the project
6 was able to be sited where no infrastructure or
7 facilities are located within potential wetlands
8 or streams. I'll reiterate that field surveys
9 will be conducted, and those field results do
10 supercede the desktop review.

11 Any cabling proposed for this project will
12 be bored under streams to avoid impacts, and the
13 project is -- will be constructed in compliance
14 with U.S. Army Corps and IDNR permit processes.

15 Q. And is it fair to say, as far as you are aware,
16 that your wetlands study was used to inform the
17 siting or the proposed siting of the wind
18 turbines and other infrastructure for the
19 project?

20 A. That is my understanding, yes.

21 Q. And again, that's because you don't want to put
22 objects on areas that are wet; is that right?

23 A. You can put things where objects are wet;
24 however, that triggers permitting. That's an

1 impact to an environmental resource. Any way
2 that you can avoid or minimize that is a benefit
3 to the environment.

4 All right. So our SHPO approval process.
5 So as I mentioned, a licensed archeologist
6 accessed the State database. They summarize the
7 information of known surveys or records of
8 occurrence within the project in the vicinity of
9 the project and initiated consultation with the
10 SHPO in May.

11 SHPO provided a response to that letter in
12 June and requested Phase 1 field surveys. The
13 Applicant will conduct the Phase 1 archeological
14 surveys and a Historic Resource Review for
15 structures within two miles, consistent with the
16 requirements of State SHPO.

17 These reports will be submitted to the
18 SHPO, and the SHPO will complete their review
19 and issue an approval letter or a request for
20 additional studies. As I mentioned, this
21 approval is required for the State Construction
22 Stormwater Permit.

23 Natural Resources Protection. So this is
24 our general NPDES Permit for stormwater

1 discharges for construction site activities. As
2 part of that, a SWPPP, stormwater pollution
3 prevention plan, will be developed for the
4 project and referenced during construction to
5 minimize stormwater runoff and avoid negative
6 impacts to water quality.

7 As I mentioned, the permit, ILR 10, will
8 be applied for prior to the start of
9 construction, and dust suppression or the
10 appropriate BMPs will be implemented during
11 construction as needed.

12 An environmental compliance representative
13 from the Applicant will be on site during
14 construction to ensure that the project is
15 complying with the SWPPP and permit conditions,
16 as well as the AIMA.

17 That's it.

18 ATTORNEY BARRY: So, Judge, I don't have
19 any more questions for the witness at this time.

20 I would ask that the witness's PowerPoint
21 be entered into evidence as Petitioner's
22 Number 4.

23 JUDGE SLAVIN: If you have eight copies,
24 that will be done.

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ATTORNEY BARRY: I do.

(Petitioner's Exhibit Number 4
marked for identification.)

JUDGE SLAVIN: And you may inquire,
Ms. Donarski.

EXAMINATION

BY MS. DONARSKI:

Q. Hi. I have a number of questions for you.

About the -- first of all, I'm looking at
Appendix H, the Illinois SHPO consultation
letter that's in our application.

Are you familiar with that letter?

A. I'm familiar with the letter, yes.

Q. Okay. In that letter, in the second paragraph,
it says, "If your project will use federal loans
or grants, needs federal agency permits or is on
federal property, then your project must be
reviewed by us pursuant to the National Historic
Preservation Act of 1966 as amended."

Is this going to have a national survey or
a national review, as well as a State review?

A. So you're asking whether a Section 106 level
survey would be required for this project?

Q. Yes.

1 A. It is my understanding at this time that no
2 federal permits are being triggered from this
3 project; therefore, Section 106 would not be
4 followed.

5 Q. Okay. In the next paragraph of that same
6 letter that was submitted, it says,
7 "Projects" -- excuse me.

8 "Portions of the project area have a high
9 probability of containing significant
10 archaeological resources. Accordingly, a
11 Phase 1 archaeological survey to locate,
12 identify and record all archaeological resources
13 within this zone, as well as the location of
14 known sites, at a legal minimum, pursuant to
15 Section 6 of the Act will be required."

16 Is your company going to follow that
17 recommendation -- or that requirement that there
18 is a Phase 1 archaeological survey?

19 A. Yes, I believe I stated that, that a Phase 1
20 archaeological survey will be completed.

21 Q. Okay. I just wanted to make sure that I have
22 that covered on there.

23 Okay. You had mentioned in the -- about
24 the avian impact study was going to be

1 completed by another company.

2 Do you know when that will be completed?

3 A. I do not, and I'll defer to the Applicant.

4 Q. Okay. I have another question -- some more
5 questions. I've got to switch to another
6 section here.

7 On the -- this would be on the EcoCAT
8 review.

9 A. Yes.

10 Q. In there they talk about the State-owned land,
11 Mautino State Fish and Wildlife Area.

12 Are you familiar with that?

13 A. Yes.

14 Q. There was a recommendation in here that the
15 Department recommends a 1-mile linear setback
16 from any IDNR owned, managed and leased
17 property.

18 Do you know that this project will comply
19 with that recommendation?

20 A. So currently, right now, that was their initial
21 letter back to us. Consultation is ongoing with
22 IDNR to better understand their rationale for
23 putting on a 1-mile buffer from that State land.
24 We have not been able to get into contact with

1 IDNR, despite multiple attempts to contact the
2 project manager who issued that letter to us.

3 But it is our intent to continue
4 consultation with the IDNR and ultimately follow
5 any recommendations from the IDNR.

6 Q. Okay. And so on the State threatened or
7 endangered species -- the Black Nose shiner, the
8 Black-billed cuckoo, the Indiana bat, the
9 Northern Long-eared bat, and the Upland
10 Sandpiper -- the recommendation is in here that
11 the County require that the project curtail wind
12 turbine operations below speeds of 6.9 meters
13 per second from sunset to sunrise between
14 July 16th and October 15th to avoid unlawful
15 take of State-listed birds and bats and minimize
16 morality of all bat species.

17 Does your company plan to follow that
18 recommendation by IDNR?

19 A. It is my understanding that the Applicant will
20 follow that recommendation.

21 Q. Okay. And if they cannot be implemented, is
22 your company going to seek an incidental take
23 authorization for those species that would
24 require that?

1 A. So consultation is ongoing. We will see how
2 that goes when we better understand things.

3 Ultimately, if an incidental take permit
4 is required to comply with recommendations, I
5 could see that being an option, yes.

6 But I -- consultation is ongoing at this
7 time --

8 Q. Okay.

9 A. -- so I can't commit to that.

10 Q. How long does that process usually take? Is
11 there an average time? Are you aware of that?

12 A. I'm not aware of an average time. As I
13 mentioned, we have made multiple attempts to
14 contact an IDNR project manager. We will
15 continue to do so.

16 Q. Okay. On your IPaC resource list, on the IPaC
17 from the U.S. Fish and Wildlife Service, I
18 noticed that it talks about some different types
19 of species in there: mammals, birds, plants,
20 eagles.

21 Is that an ongoing process too, of
22 determining what is actually in there?

23 A. Correct. This was just a desktop review to
24 initiate consultation. Consultation is ongoing.

1 Q. And then is that done prior to the
2 construction? Or how does that fit into the big
3 piece once that consultation is finished?

4 A. Generally that consultation is completed prior
5 to construction.

6 Q. And is that something then that is supplied to
7 the County so that we have access to that? How
8 does that information become available to the
9 County and to the public who have concerns about
10 the species in their vicinity?

11 A. I believe, it's my understanding, that the
12 Applicant would provide that.

13 MS. DONARSKI: Okay. Thank you very much.

14 JUDGE SLAVIN: Mr. Welbers?

15 MR. WELBERS: I have nothing, sir.

16 JUDGE SLAVIN: Mr. Jensen?

17 MR. JENSEN: No questions.

18 JUDGE SLAVIN: Mrs. Smith?

19 MS. SMITH: No. Ms. Donarski covered it.

20 JUDGE SLAVIN: Mr. Forristall?

21 MR. FORRISTALL: No, sir.

22 JUDGE SLAVIN: Mr. Stutzke?

23 MR. STUTZKE: No, sir.

24 JUDGE SLAVIN: I don't think I have any.

1 Interested Parties, by raise of your hand.

2 Connie, come on up.

3 MS. STETSON: Connie Stetson.

4 EXAMINATION

5 BY MS. STETSON:

6 Q. Could you go into the IDNR letter more
7 thoroughly, about the mile --

8 A. How so?

9 Q. -- that they are saying from Mautino?

10 A. So the IDNR recommended a 1-mile setback. As I
11 mentioned, we have tried to follow up
12 consultation with them to better understand
13 their reasoning for that 1 mile.

14 Q. Are you aware that there's a lot of eagles
15 around that area?

16 A. I'm aware that eagles were included in the IPaC
17 official species list that came out.

18 Q. Are you also aware that there's Walnut Grove
19 Woodland along Road 940 that is just south of
20 Mautino about a mile and a half? Are you
21 aware --

22 JUDGE SLAVIN: Just stop right there.
23 That's a question.

24 Q. (By Ms. Stetson:) Okay. Are you aware of

1 that?

2 A. Yes, I have seen -- I have heard of it, yes.

3 Q. Are you aware that from Mautino, birds, eagles,
4 have been flying to the woodland? It's their
5 line. That is how they go. I --

6 JUDGE SLAVIN: Are you -- now you're
7 starting -- just end with a question mark.

8 Q. (By Ms. Stetson:) Are you aware that that
9 could be their flight pattern around that area?

10 A. I am not aware. There is an avian impact study
11 ongoing.

12 Q. So you talked -- let's see.

13 The species review, what species are you
14 speaking of? You said that the species review,
15 you had to do yet? That's including the
16 birds -- is that including the birds?

17 A. So the species that are listed on the IPaC,
18 those are protected species. So those would be
19 the species that would be under our review.

20 Q. You don't have a list of those?

21 A. The migratory birds, I do not recall off the
22 top of my head.

23 The Federally-listed species, yes.

24 Northern Long-eared Bat, Indiana Bat, Decurrent

1 False Aster, Eastern Prairie Fringe Orchid. And
2 the State-listed, I believe it's the Black Nose
3 shiner.

4 Q. Are you aware that there could be four turbines
5 in the path from Mautino to the Walnut Grove?
6 There would be four turbines. Are you aware of
7 that?

8 A. Yes, I have seen the layout.

9 Q. And what will you do when it's too late and the
10 eagles start dying?

11 A. I cannot speak to that. I understand there is
12 an ongoing avian impact study.

13 Q. Is there any possible way I can get a copy of
14 the letter from IDNR that states the mile?
15 Because --

16 A. I believe that's included in the application,
17 which is available to the public.

18 Q. Okay. I will call Kris in the morning.

19 MS. STETSON: I believe that's all I have
20 right now. Thank you.

21 JUDGE SLAVIN: Thank you.

22 Any other Interested Parties, by raise of
23 your hand, questions?

24 (No verbal response.)

1 JUDGE SLAVIN: All right. You may walk
2 away/step down. I really don't know what to
3 say.

4 Well, do you have any other evidence this
5 evening, Mr. Barry?

6 ATTORNEY BARRY: No. We have no
7 additional witnesses ready to testify at this
8 time.

9 JUDGE SLAVIN: I understand. You wouldn't
10 know how long this was going to last.

11 So that having been said, I'm not going to
12 start something other than your evidence until
13 you finish that.

14 We will recess until 6 o'clock, here at
15 the Moose Lodge.

16 Right, Ms. Donarski?

17 MS. DONARSKI: Yes.

18 JUDGE SLAVIN: On Monday, September 29th.

19 I just want to check. Mr. Welbers, that's
20 okay?

21 MR. WELBERS: Yes.

22 JUDGE SLAVIN: Mr. Jensen, as far as you
23 know, that's okay at the present, right?

24 MR. JENSEN: Right.

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JUDGE SLAVIN: Mrs. Smith, yes?

MS. SMITH: Yes, as far as I know.

JUDGE SLAVIN: Mr. Stutzke, yes?

MR. STUTZKE: Yes.

JUDGE SLAVIN: Mr. Forristall, yes?

MR. FORRISTALL: Yes.

JUDGE SLAVIN: Callie, you're okay?

COURT REPORTER: Yes.

JUDGE SLAVIN: All right. See everybody,
6 o'clock, Monday, September 29th, here at the
Moose Lodge.

(The hearing was recessed at
8:09 p.m.)

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Now on this 10th day of September, A.D.,
2025, I do signify that the foregoing testimony
was given before the Bureau County Zoning Board
of Appeals.

Barry Welbers, Chairman

Kristine Donarski,
Zoning Enforcement Officer

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