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 29th day
of September, A.D., 2025,
before the Bureau County
Zoning Board of Appeals

ZBA Members Present:

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

Samantha Holt, Secretary
Kristine Donarski, Zoning Enforcement Officer

Judge Timothy Slavin, Facilitator

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EXHIBITS

In Totidem Verbis, LLC (ITV)

JUDGE SLAVIN: All right. Good evening, everyone. I call out of recess Bureau County Zoning Board of Appeals hearing on 111 sequential petitions, beginning with 25-06-16-1CV, Braided Creek Wind, LLC's, request for Conditional Use Permits and Zoning Variances to construct and operate a wind energy conversion system in the county.

I note the presence of the honorable members of the Bureau County ZBA: Mr. Welbers, its chairman; Mr. Jensen; Mrs. Smith; Mr. Stutzke; Mr. Forristall. And the presence of Zoning Officer Donarski and her able assistant, Sam.

Petitioner's Attorney, Mr. Barry. Our court reporter and myself. Four Petitioner's representatives. And I see three -- unless I'm blocked by someone, three members of the public.

All right. Having said that, I would like to do a little housekeeping. Any change -- I'm just going to go through the -- very quickly through available dates. I am not going to go through them all.

Are you all -- meaning, ZBA members --

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okay for tomorrow night at 6:00 at the Moose Lodge?

I should say it this way: Anybody not able to participate?

(No verbal response.)

JUDGE SLAVIN: Okay. Mr. Barry, you're still okay with that?

ATTORNEY BARRY: Correct.

JUDGE SLAVIN: And, Callie?

COURT REPORTER: Yes.

JUDGE SLAVIN: Kris?

MS. DONARSKI: Yes.

JUDGE SLAVIN: And Kris tells us that we might be joining a wake here at the Hall, but it's supposed to be wrapping up at 6 o'clock though. Right?

MS. DONARSKI: Shortly before, about a quarter till.

JUDGE SLAVIN: Okay. All right. Very good. Thank you for that.

And when we left off, Mr. Barry, you, on behalf of the Petitioner, were presenting evidence and you may continue.

ATTORNEY BARRY: Thank you, Judge Slavin.

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First off, I have a little bit of additional housekeeping, if I may.

I have -- I would like to present into evidence Exhibits 5 and Exhibit 6. Exhibit 5 is the stamped version of the shadow flicker study. I have an engineering stamp by Mr. Anderson.

Then Exhibit 6 would be the stamped version of the decommissioning plan, also stamped by Mr. Anderson.

JUDGE SLAVIN: Okay.

ATTORNEY BARRY: If I could present those.

JUDGE SLAVIN: Yup, that would be great. Have you got, hopefully, at least eight copies?

ATTORNEY BARRY: I do.

JUDGE SLAVIN: Pass those out. Thank you.

(Petitioner's Exhibits Number 5 and 6 marked for identification.)

JUDGE SLAVIN: Okay. Then if you want to start some evidence, that would be great.

ATTORNEY BARRY: I do. At this time I would like to call to the stand Terry VanDeWalle.

JUDGE SLAVIN: Mr. VanDeWalle, if you want

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to raise your right hand for me, sir.

TERRY VANDEWALLE,

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

JUDGE SLAVIN: We are using that podium over there. Unless you have to sit. We will make arrangements if you do.

EXAMINATION

BY ATTORNEY BARRY:

Q. Good evening, Mr. VanDeWalle.

A. Good evening.

Can you hear me? Okay.

Q. Could you state and spell your name for the record, please.

A. Sure. Terry VanDeWalle, T-E-R-R-Y, V-A-N-, capital D-E-, capital W-A-L-L-E.

Q. And what is your title and your position of employment, Mr. VanDeWalle?

A. Sure. So I work for Stantec Consulting Services. My title is principal biologist -- senior principal biologist.

Q. And I understand you have a PowerPoint presentation, correct?

A. I do.

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Q. And I think the first page shows your -- some qualifications, correct?
A. Yes.
JUDGE SLAVIN: If you have copies of those, do you mind just handing those out so folks can follow along?
ATTORNEY BARRY: Absolutely.
JUDGE SLAVIN: Please.
Is that marked yet?
MR. ZVONAR: Yes.
JUDGE SLAVIN: What is it?
ATTORNEY BARRY: I think that's Petitioner's Exhibit 8; is that correct?
MR. ZVONAR: 7.
JUDGE SLAVIN: He's got 7 on it.
ATTORNEY BARRY: Oh, 7. Excuse me. Jumping ahead.
(Petitioner's Exhibit Number 7 marked for identification.)
Q. (By Attorney Barry:) Okay. Mr. VanDeWalle, can you tell us about your experience and qualifications, please?
A. Sure. So I have a Bachelor's Degree in Animal Ecology, and a Master's Degree in Biology. I

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have been working as an environmental consultant for 32 years now, the last 19 of which have been working in the renewables industry, primarily with wind industry -- with the wind industry, and specifically with wind and wildlife issues.

I have worked on -- or, you know, my office, and with me as the lead, we have worked on I think around 175 wind farms, in 22 states now, and over 30, 35 I think are those here in Illinois.

Q. And have you worked on any wind projects in Bureau County?

A. Yes. Counting this one, six.

Q. And have you testified in connection with wind project hearings in Bureau County?

A. Yes, all six of those.

Q. Thank you.

And again, what is the subject of your testimony this evening?

A. A raptor nest search and avian use survey.

Q. So you performed or you are performing a raptor nest and avian use survey for the project, correct?

A. Yes. My office and then the biologists under

my direction, we completed a raptor nest search for the project, and the avian use survey is ongoing.

Q. Okay. And at this time I'd ask you to go through your PowerPoint and provide additional testimony.

A. Sure. So I think the second slide is just a little bit more about Stantec. We are a Canadian company headquartered in Edmonton, Alberta, but we have around 250 offices here in North America.

My office is in Independence, Iowa. And as I mentioned, we kind of work all over the country on wind projects.

As a company, Stantec has worked on around 1200 wind farm -- wind projects, really all over the country, and a large number of solar projects. So renewables is a big part of what we do. In my office, 90 percent of what we do in my office is renewable power, primarily wind, wind projects.

Q. And just to be clear, you're based out of which office in Iowa?

A. Independence, Iowa.

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Q. And where is Independence relative to here?
A. Independence is up in the northeast part of the state. If you're familiar with Iowa at all, Dubuque and Waterloo, Independence is kind of almost right in the middle, right on Highway 20 between those two.

We also have a Des Moines office, but I manage our Independence office.

Q. Which is closer to Princeton than Des Moines, correct?
A. Yeah. It's about 2 hours and 45 minutes from here.
Q. Thank you.
A. All right. So as I mentioned, we did conduct a raptor nest search. Raptor nest search, raptors are the birds of prey; so hawks, owls, eagles, vultures, falcons. And we do these raptor nest searches looking for stick nests for the birds, primarily focused on eagle nests, but we do record really any other raptor nests that we see.

The methods for the raptor nest search follow the Eagle Conservation Plan Guidance -- U.S. Fish and Wildlife Services' Eagle

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Conservation Plan Guidance, which recommends searching within the project boundary, plus a two-mile buffer of that boundary.

So that's what we did. We conducted that search in March of 2024. This was a ground-based survey. Sometimes we do them from airplanes. It really depends on how much woodland is in the project area. If there's a small amount of woodland and a good road network, we can do them from the ground.

This one was a ground-based survey.

We did locate some nests -- give me a second here.

Where's the pointer.

MR. ZVONAR: It's the green button up top.

JUDGE SLAVIN: I think you better show him.

A. Oh, here we go. Sorry, I can't point and talk in the microphone at the same time.

I'll show you where the nests are located (indicating).

So we did locate a few red-tailed hawk nests and two eagle nests. Of the two eagle nests, only one of those was occupied. Only one

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had birds in it, and the other one was not being used that year.

All of those nests are outside the project area but within that two-mile buffer of the project area. So no eagle nest or other raptor nest within the project area.

The other survey that we're doing, this is the one that's still ongoing, is the avian use survey. So avian use surveys, these follow the guidelines in the U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines and the Fish and Wildlife Service Eagle Conservation Plan Guidance.

Avian use surveys are broken up into two types of surveys:

Small birds surveys. Small birds are defined as any birds American crow size or smaller;

And large birds then are any birds that are larger than an American crow.

So we do small birds, we do large birds, and then we also do an eagle use survey.

So the small bird surveys are one-year surveys. We survey -- we set up a series of

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survey points. That's what these circles are.

The number of survey points within the project area is based on the recommendation from the Eagle Conservation Plan Guidance, which recommends that the survey area be 30 percent of the project area.

So this -- for eagles, that -- the survey area is an 800-meter radius. So we set up a survey point. It's a circle with an 800-meter radius and a 200-meter height. So it's really a survey cylinder. Then we record all of the large birds and eagles within that survey cylinder.

Small birds, we use the same points, but we only use a hundred-meter buffer -- or survey area for the small birds. That's because you really -- a lot of the small birds we identify by sound, by their call, by the song. You really can't hear those much beyond a hundred meters accurately.

So small birds have a smaller survey area and they have a shorter window. So we survey for small birds once a month for 12 months, and for eagles we survey once a month for 24 months.

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The small bird surveys are five-minute surveys at each point. So each month we go to each one of the points shown on the map, and we sit at that point -- the surveyor sits at that point for five minutes and records all the small birds that they either see or hear within that hundred-meter buffer or survey area.

They do that for the first five minutes. Then for the next 60 minutes, they record all the large birds and eagles that they see. So the eagle and large bird surveys are 60-minute surveys, once a month, at each point for 60 minutes, and then for 24 months.

So the small bird surveys are done, they started in January of '24 and went through December of '24.

The large bird surveys are still ongoing. Again, started in January of '24. They will end in December of '25 then. So we have a few months left of those surveys.

So also on the screen then are just some preliminary results. So these are the most common birds so far that have been seen, both in the small bird surveys and the large bird

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surveys. If you'll look through the list, you'll see that these are really typical, common birds that we see in these agricultural landscapes. So nothing really unique here.

Some of these birds -- a lot of these birds we see during the fall migration, some during winter. There are some resident birds that are here in the summer.

But, you know, again, croplands are not the greatest nesting habitat for birds. So in areas where there are crop fields, we're not seeing, you know, a lot of diversity, a lot of different numbers of species in those areas. A lot of those birds are nesting, you know, in the road ditches. Red-winged black birds, things like that, that you're used to seeing.

We have observed eagles during the eagle use surveys. So there are 20 survey points that are shown on the screen. Of those 20 points, to date we have observed eagles at 12 of those 20 points.

We have seen -- down here at the bottom, we have seen two State-listed endangered species; the Northern Harrier and the

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short-eared owl. Although they are State-listed, these two birds, particularly the Northern Harrier, are really common to see during migration. And so that's when we have observed these birds, is during fall migration.

They are listed as endangered in the state because nesting habitat, which is grassland for both of these birds, there's not a lot of -- you know, a lot of agricultural, not a lot of nesting habitat for them. So we don't really see these birds during the summer during their nesting period, but they do fly through the project area during migration. As I said, that's really common at wind projects, not only here in Illinois but throughout the Midwest.

These two birds are rarely -- there's rare mortality of these birds at wind projects, and it's because of their behavior. Northern Harriers in particular, they hunt during the daytime. They fly low to the ground and they're looking down for their food. They hunt by sight and by sound. But because they're flying low to the ground, they are flying below the rotor swept zone, below the turbine blades.

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Short-eared owls also are grassland birds. They hunt more in the evening, in kind of the dawn, but similar behavior, they are flying low to the ground, typically below the rotor swept zone.

Because mortality for those two listed birds is so low, the Illinois DNR doesn't ever even bring these species up. So I understand you -- an earlier witness showed the EcoCAT recommendations and from the Illinois DNR, and you'll notice that neither one of these birds show up on there.

The Illinois DNR recognizes that these birds are common during migration, but is not concerned about their mortality and so they don't request or recommend an Incidental Take Permit for those birds.

I think that concludes it.

Q. (By Attorney Barry:) Thank you, Mr. VanDeWalle. I have some additional questions, if you don't mind.

I think you might have already covered this, but just to confirm, does the project's design and the turbine layout follow U.S. Fish

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and Wildlife Service's guidelines with respect to eagles?

A. Yes, it does. Both the Land-Based Wind Energy Guidelines and the Eagle Conservation Plan.

Q. So from your perspective, do you believe that this project is sited in such a way that it's likely to minimize any eagle mortality?

A. Yes.

Q. Are you aware of the Audubon Society?

A. Yes.

Q. Are you aware of the Audubon Society's position with respect to wind energy projects?

A. Yeah. Yeah, I am.

Q. What is that? Can you share that, the Audubon Society's position?

A. Sure. Yeah, the Audubon Society strongly supports renewable energy, including wind energy, and specifically strongly supports projects that are properly sited.

Q. Thank you.

Mr. VanDeWalle, did you do a post-construction avian mortality survey for the Crescent Ridge and Lone Tree projects, each of which are located in Bureau County?

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A. Yes, we did.
Q. In those surveys, did you find any mortality of any endangered species?
A. No threatened or endangered species were found, neither State nor federal species.
Q. And did you find any eagles that had been killed by a wind turbine in those two other wind projects in the county?
A. No.

ATTORNEY BARRY: Thank you. That's all the questions I have on direct exam of Mr. VanDeWalle at this time.

JUDGE SLAVIN: All right. How about members of the ZBA.

Mr. Welbers?

EXAMINATION

BY MR. WELBERS:

Q. You spoke of the properties of the harriers and the owls, that they fly low.

Are there any properties of eagles, bald eagles, that protect them from being hit by those blades?

A. Yes. That's a good question. Yes, there is.

Bald eagles, they do fly higher, so

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they're not flying that low to the ground like these two species.

Bald eagles have been shown to have a really good avoidance behavior. So they're good at avoiding objects, stationary objects, or in this case blades.

The reason for that is because of the way they hunt. When bald eagles are hunting, they are looking out ahead of them and they're, you know, moving their heads around, they're looking side to side, and they're looking up and down. So they're observing what's out in front of them.

That's different than, say, a golden eagle, which we don't have here. The golden eagles, when they're hunting, they're looking straight down at the ground. So they're not looking at what's ahead of them. So those golden eagles have not as good avoidance behavior.

So it's not that all eagles avoid turbines, that's certainly not the case, but they are -- in general, they are really good at avoiding.

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MR. WELBERS: Thank you, sir.
JUDGE SLAVIN: Mr. Jensen?
MR. JENSEN: No questions.
JUDGE SLAVIN: Mrs. Smith?
MS. SMITH: No questions.
JUDGE SLAVIN: Mr. Forristall?
MR. FORRISTALL: No, sir.
JUDGE SLAVIN: Mr. Stutzke?
MR. STUTZKE: No questions.
JUDGE SLAVIN: Ms. Donarski?
MS. DONARSKI: Yes, I have a few questions for you.

EXAMINATION

BY MS. DONARSKI:

Q. On your previous slide, the one right before this called the "Raptor Nest Search," my question is, over at the side you have, Ground-Based Raptor Nest Search, March 12 and 14, 2024.

What is that date on there?

A. Those are the days that we conducted the survey. So it took us two days to do it.

Q. Okay. Now, when you did this, were you -- did you just drive down the road? Or how -- what

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kind of things did you do on those two dates?
A. Yeah, so the survey was conducted from public rights-of-way. So we didn't go on anybody's property. Public rights-of-way, driving public roads, or I guess if there was a public parking lot that we could pull in, something like that.

The biologists then were observing the woodlands using binoculars or a spotting scope, something like that.

So again, as I mentioned earlier, if you have got small wood lots and a good road network, we can get all the way around, you know, each side of those woodlands. That's the goal. And then we look at them from all sides.
Q. And do these typically, do they -- is there a certain type of habitat that draws the eagles and raptors? Is it, like, near water? woods? What kinds of habitat are they drawn to?
A. General -- in general --
Q. In general, yes.
A. Yeah, so in general, things like eagles or red-tailed hawks or great-horned owls, the kind of the common raptors that you think about, they all nest in trees. So it would be woodlands.

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Although, sometimes -- it doesn't have to be a big woodland. Sometimes it might be an isolated tree here and there.

The other two birds, as I mentioned the Northern Harrier and the short-eared owl, they are ground nesters. So they nest on the ground in grassland. Which is why if there is no grassland, you don't have the birds.

So what we're principally looking for are those stick nests in trees.

Q. Okay. Did you happen to go to the Mautino Fish and Wildlife area? Did you happen to do any of your survey at the Mautino Fish and Wildlife area?

A. I don't know if -- if it's within our -- if either all or part of that is within our survey area and there are public roads, then yes, we would have visited.

Q. Okay. But they don't get out and walk? Like, if it's a public park, it's all observed from a vehicle?

A. That's right.

Q. Okay. Now, is there any migratory pathways that cross the footprint of Braided Creek, like

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that they would be used during migration, like for birds?

A. So birds in general or the raptors?

Q. We'll start with the raptors first.

A. Sure. It's probably the same answer either way.

Generally, no.

Q. Okay.

A. Those -- when we think about migratory pathways for birds or migratory flyways, those are generally the larger rivers. So you think about, for instance, the Mississippi or the Missouri River, really major flyways.

When you look at the interior rivers, it's still the larger rivers that can be that way. So the Illinois River, for instance.

But when you start getting smaller and smaller streams, those smaller streams are really not serving as primary migratory pathways. You might have a stopover, you know, as the birds are going from place to place, but not major flyways.

Q. Now, my next question is on the next slide that you had, where you have the circles where they

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went and observed.

How are those spots chosen?

A. So, again, we wanted to get 30 percent of the project area to be covered by the survey area, and so we take the 800-meter radius circles, and we figure out how many of those 800-meter radius circles we need based on the total project area.

Then the location of those surveys is somewhat random. Although, it's -- again, these surveys are done from public rights-of-way. So the surveyor, you know, we -- the surveyor is going to go to the point, sit there for 65 minutes to do those points.

We ran- -- we sort of randomly -- we start with a random selection, but then we looked specifically at the site. Is it safe for the surveyor to sit there, first of all, based on the road? Is there a wide enough shoulder? Is there somewhere else they can pull off?

Then secondly, we look to see, you know, are there houses or residences nearby? We don't want to put a surveyor on the street right outside somebody's house and have them sit there for an hour. You know, it makes people nervous.

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So we randomly choose them, to start with, but then we modify the selection based on, you know, safety and proximity to houses. Also sight distance. If we pick a site that's at the bottom of a hill, for instance, we'll move that point to the top of hill.

But they are all done from public rights-of-way.

Q. Okay. Then what is your -- why do you do one type of survey for a shorter time and one for a longer time?

A. Yeah, it's really based on Fish and Wildlife Service or, in the case of small birds, the U.S. Geological Service Guidelines and methods.

Small birds, you know, it's been shown, you know, for decades, doing small birds that, you know, 5- to, say, 10-minute surveys are long enough to record all the birds that are in the area.

Those 5-minute surveys do align with the National Breeding Bird Survey also that's done every year. Every state has routes for those. So we match the methods for the small bird.

The large birds and the Eagle Use Surveys,

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those methods are from the U.S. Fish and Wildlife Service Eagle Conservation Plan Guidance. So it's the methods that the U.S. Fish and Wildlife Service recommends.

MS. DONARSKI: Okay. Thank you very much.

JUDGE SLAVIN: Thank you.

Okay. How about Interested Parties, by raise of the hand.

Yup, Connie.

So it's a new day. So if you'll start your name.

MS. STETSON: I'm Connie Stetson.

EXAMINATION

BY MS. STETSON:

Q. First, who do you work for?

A. Stantec Consulting Services.

Q. And you're paid by who? Did you say you work for the renewable energy --

A. That's the sector we work in, but our client in this case is Braided Creek.

Q. Well, renewable energy?

A. It's a renewable energy project, yes.

Q. Okay. Just wanted to get that clear.

Are you aware -- you were aware of

Mautino, and you went to Mautino and looked as much as you could? Through the whole park, you -- did you walk --

JUDGE SLAVIN: How many questions at once, Connie?

A. So as I stated before, we only do this from public rights-of-way, and they are done from the vehicle. So the staff would have used whatever roads are available or parking lots that are available, did not get out and walk anywhere.

Q. So your staff didn't walk into anything to look further inside a park?

A. No.

Q. So the only -- so are you stating that they only have the views from the roads?

A. That's right. But as I said, we -- if the areas have small enough wood lots and a good road network, we're getting points all the way around or observation areas all the way around the wood lots where we can so that we can see from all sides.

Q. Are you aware that Mautino Park is kind of -- there is a road that goes through it, but then there's also a lot of tree areas that you

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probably couldn't see through a car?
A. Well, I guess what I'm aware of is that, you know, our staff was able to adequately survey the area, that they felt -- they felt they could adequately survey.
Q. Did your staff also go to Walnut Grove Woodland?
A. I'm not sure I know where that is. Again, if it's a woodland within the project area and there are roads around it, then we would have looked at it. We observed all woodlands within the project area, yes.

I don't know it by that name, I guess is what I'm saying.
Q. Okay. So you're stating you did this within a two-mile radius? Is that how I heard that?
A. It's -- so on the screen, we survey within the project area, which on this slide is the yellow boundary, and then the 2-mile buffer of that boundary, which is the dashed line all the way around it.
Q. Are you also aware that the IDNR stated that they want this project to be a mile from Mautino Park?

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A. I'm not aware of that recommendation, no.
Q. Are you aware that these birds fly from Mautino to this woodland grove -- the Walnut Grove Woodland area? Are you aware of that at all? Because --

JUDGE SLAVIN: No. Good question. Just stop at the question.

MS. STETSON: Sorry.

ATTORNEY BARRY: I just would ask -- she said "birds." So is there a type of species?

JUDGE SLAVIN: She asked birds, that's --

ATTORNEY BARRY: Fair enough.

MS. STETSON: "Birds" is raptors and birds.

A. Our surveys do not track individual birds. So if you're asking me, does -- you know, does a bird fly from Mautino to -- the other one.
Q. Walnut Grove Woodland.
A. Yeah.

Does a bird fly from one point to another, I can't answer that because we don't track that.

What I can tell you is, we have survey point, avian use points, in all of those areas, both -- I assume where the other area is.

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But we have bird survey points in the area. We're recording birds at every point. So what I know is, there are birds, including eagles, at the points, but I can't say whether one -- you know, an individual is flying from one point to another.

Q. Are you -- I don't know if I mentioned this. Are you aware that the Walnut Grove Woodland is only, like, a road and it goes back seven miles of all woodland?

A. No, I'm not aware of that because I -- again, I would have to see which wood lot it is on a map.

I guess, regardless of how big it is, if there are roads on the side, we're looking in.

The other thing I didn't mention is, these surveys are done before leaf out in the spring. So we're out -- that's why we were there in March, before the trees leaf out, which allows us to see farther into the woodlands. So if we're looking from all sides, we're able to -- again, the surveyors are determining whether they can see into these woodlands or not. If they can't, then they would come back and say so and we would change our methods. We might have

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to fly or something like that.

But in this case, the surveyors didn't believe they needed to do that.

Q. Can you see seven miles?

A. But I don't have to see seven miles at one point. That's why we look at it from all sides.

Q. Well, maybe I need to rephrase.

Walnut Grove has one road. It's along the road. There's seven miles back in, is all the area that your surveyors probably did not see.

JUDGE SLAVIN: That's not a question. That's a statement.

Q. (By Ms. Stetson:) Is that what you're saying, is they only saw just from the road and not through the seven miles?

A. I am not saying that they only saw from that road, no.

Q. Are you aware that one of these turbines is, I don't know as far as feet goes, but very close to the woodland?

A. Again, I'm not entirely sure which woodland we're talking about, so I can't say that I know a turbine is close.

Q. Are you aware that there's going to be three

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turbines within a mile of Mautino?
A. Well, not specifically, no. I have not looked at the whole turbine layout. Our -- we're looking at -- we're doing the bird survey in the absence of where the turbines would be. We're just surveying birds in this project area, and then, you know, the company can take our information and use that, you know, as part of their siting decisions.
Q. Are you aware that the birds are -- I'm going to say, eagles and raptors fly from the Mautino to Woodland and there are turbines that will be in their way?
A. Well, again, we're not tracking individuals. So I know that there are eagles flying in the area. I do not know where they start or where they end. But we have --
Q. Do you know --
A. But we have recorded eagles in the area.
Q. So you're just stating that they're only in the areas around the turbines? You have not actually gone outside that area for surveying?
A. No, that's not what I'm saying at all.
Again, I don't -- I didn't look at where

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the turbines are when the survey points are set up. The survey points are set up so that we get a coverage of 30 percent of the project area. It doesn't have anything to do with turbine locations. So the dots you see on the map are not turbines. Those are just survey points.

What I can say is that we are seeing eagles and other birds at the survey points. We see birds at every point. We have seen -- to date anyway, we have seen eagles at 12 of the 20 points.

Q. Do you know which 12 they are?

A. I do not know, off the top of my head.

I'm going to have to step away here for a minute.

I'll circle some of the areas that I know that we have seen some of the birds. I don't know every -- you know, without looking, I wouldn't know every point.

So we are seeing birds in this northern -- you know, in the northern part. We are seeing birds through here. And actually, let me clarify that. We are seeing eagles in these areas. We're seeing birds at every point.

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Q. Oh, I'm agreeing with you.

JUDGE SLAVIN: We don't care if you agree or not. Look, ask him a question. He's answering the question.

A. So, again, we're seeing eagles in this area. We're seeing eagles here. We also saw a few eagles down in this area. Not eagles at every point so far. But again, we still have a few months to go. So we're not done yet.

Q. (By Ms. Stetson:) Are you aware that the first four that you pointed to right up there, that is by Mautino Park?

A. Yeah, I'm aware that that is generally up in that area, yeah.

Q. Are you aware that the ones that are kind of lower there on that same section is the Walnut Grove Woodland area?

A. So again, I don't know specifically which woodland that is. So I don't know that those are in that area -- or that -- yeah, that the points are in that area. What I do know is that we're seeing eagles there.

Q. You are seeing eagles, thank you.

You stated that you did some studies that

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turbines, when they were up, and about the birds or raptors that have died, you stated something about that.

How often do you check that?

A. So one of the other types of surveys that we do for wind projects are post-construction mortality surveys. So walking around under the turbines and, you know, looking for dead birds and bats. Those are done after the projects are constructed and they're operating. So obviously not done here yet.

So what I testified to is that we have done that for some other projects here in Bureau County. We also do it really all over the place.

So your question is then what is the search frequency? How often do we search under the turbines? That is really site specific. But in general, it's at -- it is generally no more than every seven days. So once a week. But some projects, it's twice a week. So, you know, the methods are tailored to fit the site there. So one to two times a week.

And those are done -- the seasonality of

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those surveys varies by site as well. Some projects do them from April through October. Some just do them during the, you know, summer months, say May through October. Others do them just during the fall. So it really depends, again, on where we think, you know, the highest mortality would be.

Q. Do you have reports -- do you write a report for these sitings or what you found? "Yes or no, I found this or that"?

A. Yeah, there is an annual report at the end of every season -- or every year that would go to whoever our client is. Generally those will also go to the Illinois DNR and, if there are federally listed species, then the Fish and Wildlife Service would get a report as well -- or get a copy of the report.

Q. Are you aware there's predators out there that eat dead animals that -- are you aware of that?

A. Yeah, I am very well aware of that. So these -- so these post-construction mortality surveys, part of it -- you know, the biggest part is just walking around, looking for the dead birds and bats. But there's two sources of

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error that affect how much -- affect our estimates at the end of the number of birds or bats that are killed.

So those two sources, one is search or efficiency. How good is our -- how good are our searchers? Like, how many of those dead birds or bats that are out there that they find.

The second is scavengers. So we test for both of those things. Those are bias direction factors that we add in. So we test our searchers to see how well they do. And we have standards. They have to find a certain number of the test carcasses that we put out there.

Then the other thing we do for the scavengers is, we put carcasses out there and we monitor them every day for 30 days and we see how quickly they disappear. So ideally, what we would want is that the carcasses last longer than our search interval. Right? So if we're only searching once a week, we don't want the carcasses to disappear in less than seven days.

If they do disappear in less than seven days, that's when we shorten that search interval. We search twice a week, generally is

enough. We have had at least one project where we had to search three times a week.

So when I say it depends on the site, part of what it depends on is that scavenger rate or really the carcass persistence.

Q. So you just -- okay. So you stated that your company goes out every three to four days -- or every three days to do this? Or do you have someone that you hire in this area?

A. Our staff, our professional biologists are doing the work.

Q. So they travel to all these sites that you look at all the time?

A. Well, it may not be the same staff traveling to all the sites.

If we're searching a project two to three times a week, then the searcher stays there the entire week. They are essentially full-time at that site. We have -- you know, we're a large company. You know, we have a large number of staff. So we can put staff at various sites.

If the site only needs to be searched once a week and it only takes one day to search it, that searcher may go to other sites multiple

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times a week. But we have staff at each of these sites.

Q. How do you determine -- like, how do you determine how many times your staffer goes out there? I mean, how do you determine the site that they should look at?

ATTORNEY BARRY: I think that's asked and answered.

JUDGE SLAVIN: It's absolutely been asked and answered.

If you would answer it this one time.

But you have got to listen to the answer, Ms. Stetson. He answered this.

ATTORNEY BARRY: Okay.

Q. (By Ms. Stetson:) Okay. Well --

JUDGE SLAVIN: Go ahead. Go ahead.

A. So in the case of -- and maybe this is the confusion.

So in the case of the post-construction monitoring, the sites are the turbines. Right? Each of the turbines is searched, because it's after the project is built.

If it's the avian use study we're talking about, then that's where we want to get

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30 percent and randomly select those sites.
Q. (By Ms. Stetson:) You also stated earlier that not only do you drive but you sometimes look above with planes.
You didn't do this through this site, for nests?
A. We did not. Our onsite staff didn't feel it was necessary. They had good enough visibility from the roads to be able to conduct the search.
Q. Even at the -- question.
Speaking of the Walnut Grove Woodland, how did your staff see through seven acres? That's still -- and it's been answered, I understand that, but I don't understand how your staff could have seen through that without going through an airplane or a drone or something.
That is what I'm really concerned about. I don't think your staff even -- you didn't even know where that was.
JUDGE SLAVIN: Now you're giving a speech.
MS. STETSON: Yup, I am. I'm sorry.
JUDGE SLAVIN: There's no question pending. You have got to ask a question.
Q. (By Ms. Stetson:) Your staff did not use an

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airplane, correct?
A. Correct.
Q. They did not use a drone, correct?
A. Drones are not allowed by the Fish and Wildlife Service.
Q. Okay. I did not know that. Thank you for saying that.
MS. STETSON: I guess that's all I have.
JUDGE SLAVIN: Any other Interested Parties, by the raise of your hand?
(No verbal response.)
JUDGE SLAVIN: Okay. Seeing none, any redirect, Mr. Barry?
ATTORNEY BARRY: Yes, I have a couple quick questions.
EXAMINATION
BY ATTORNEY BARRY:
Q. Mr. VanDeWalle, are eagle nests small?
A. No, they are not. Eagles, when they build nests, they use the same nest year after year after year, and they add new sticks to them each year. So the nests get really large.
Nests can be the size of a VW Beetle, and they can weigh over a ton. We have -- you know,

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we have nests that -- some of our staff also do eagle nest monitoring. There are nests -- some of these nests are 6 feet deep. You can stand in it and it would be deeper than your head. So really large nests, which is also why they are easy to see if the leaves are off, even from a distance.

Q. Thank you.

Mr. VanDeWalle, is there a correlation between eagle activity in an area around wind turbines and eagle mortality? Is there a direct correlation?

A. No, there's not a strong correlation at all between, say, pre-construction eagle use and post-construction mortality. And again, that's probably largely due to the fact that bald eagles, anyway, have that good avoidance behavior. So just because you have turbines and you have eagles, it's not a foregone conclusion that you're going to have eagle mortality.

That's not to say that eagles, you know, aren't killed at wind projects. They occasionally are. But no, there's not a direct correlation.

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ATTORNEY BARRY: Thank you. That's all.

JUDGE SLAVIN: You may step down, or walk away.

ATTORNEY BARRY: And I would like -- I know it was -- we handed them out, but if we could mark Mr. VanDeWalle's --

JUDGE SLAVIN: Already done.

ATTORNEY BARRY: Already done. That's Exhibit 7.

Exhibit 1 through 7 are admitted.

ATTORNEY BARRY: If I may present the next witness?

JUDGE SLAVIN: Sure.

ATTORNEY BARRY: Thank you. Dr. David Loomis, please step up to the podium.

JUDGE SLAVIN: Or up here first.

DAVID LOOMIS,

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

JUDGE SLAVIN: Have a stand.

EXAMINATION

BY ATTORNEY BARRY:

Q. Good evening, Dr. Loomis.

A. Good evening.

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Q. Could you state your name for the record and spell it.
A. Yes. David, D-A-V-I-D, Loomis, L-O-O-M-I-S.
Q. And I referred to you earlier as a doctor. So can you tell us what you have a doctorate in?
A. I have a PhD in economics from Temple University.
Q. Thank you.

And so what is your position of employment or -- yeah, position of employment, I guess?

A. I am president of Strategic Economic Research, LLC, which is a company that I founded and own. Previous to that, or concurrently, I was also a professor of economics at Illinois State University for 26 years.
Q. What does Strategic Economic Research do?
A. We perform economic analysis, property tax analysis, land use analysis for energy projects with -- so wind, solar, battery storage, transmission, natural gas, green hydrogen, the gamut, but I'd say the majority that gets built is wind and solar.
Q. Dr. Loomis, did you prepare an analysis for the Braided Creek Wind project?

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A. Yes.
Q. Is that analysis Appendix B, as in boy, as part of the application materials?
A. Yes.
Q. I see a PowerPoint presentation on the screen. Is that something you want to take us through?
A. Yes.
Q. Thank you.
ATTORNEY BARRY: And I'll note for the record that this has been passed out to the members of the Board, et cetera.
JUDGE SLAVIN: And marked as Petitioner's Exhibit 8.
ATTORNEY BARRY: Thank you.
(Petitioner's Exhibit Number 8 marked for identification.)
Q. (By Attorney Barry:) Please proceed, Dr. Loomis.
A. I'll skip this slide since we went through that as well.
I am going to do two parts of the presentation. First we'll talk about the economic impacts. Economic impacts include things like jobs, earnings and output. We'll

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talk a bit about that, then we'll talk about the property taxes that will be paid from this project to the various taxing entities.

I will note that the property taxes do feed into the economic impact analysis. So we are looking at the economic impacts that that property tax revenue will make to the County and school districts and other taxing entities.

To do this, we use economic impact software called IMPLAN. IMPLAN is an industry leading software. It has specific economic multipliers for at the county level and at the state level. So it knows what industries are available here in the county and how those industries are interrelated to one another.

It is used by economic development professionals and is not specific to the wind industry or energy industry at all.

We would get -- or we did get for this project the cost -- detail cost that they expect during the capital expenditures, so all the way up through development, through construction; and then secondly, their operating expenditures, what they are projected to spend each and every

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year. That would include salaries for wind turbine technicians.

We try and separate those out into those expenditures that will be made locally, in the county; those that will be made at the State; and then those expenditures that would be flowing outside of the state.

That's important because when we look at the county, we want to say, "How many dollars stay here in the county, and how do those dollars reverberate throughout the county locally here in the county"?

Then there's expenditures that would flow outside the county but to other counties within the state. So that gets a bigger multiplier effect for those state expenditures.

Then what we call leakage, those expenditures that would come and flow outside the state. It might be to another state or even outside the country.

Then we look at the results and we put them into three buckets:

The first would be the direct impacts. Direct impacts are directly employed by the

company or by their affiliate. So the engineering -- the EPC contract, the engineering construction firm that's going to be building the project, would be in that direct impacts;

The indirect impacts would be the supply chain impacts. So those would be including all the local purchases: purchases of concrete and rebar for the foundations, purchases of asphalt, concrete for roads and road repairs, would all be in these indirect impacts;

Then induced impacts are those impacts that come as a result of people having more money because they have jobs associated with the direct and indirect impacts. So induced impacts would be things like ordinary household purchases, like, you know, buying groceries, buying -- being entertained, dining out. Those kinds of items would be in that induced impacts.

So getting now to the results here for our Braided Creek Wind in particular. You can see in the left-hand column is the Bureau County results, and we see -- and then the far column is the State of Illinois results. Obviously the State of Illinois results are bigger than the

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Bureau County ones. That's just a function of, as I described, a wider area, bigger multiplier to come through.

So we see 24 jobs. These are full-time equivalent jobs. So it might be some part-time people. But, you know, two half-time people would equal one job in this case.

And during construction, that is going to last for a year. So you see 111.

On the operations side, those are ongoing, annual jobs. Some people think of them as permanent jobs that are going to last the life of the project. And you see there in terms of direct, indirect, and induced there for the county is 22 long-term jobs.

Just a graph of those.

It's also important to look at earnings. Earnings are only those things that are associated with the job. It includes wages, as well as benefits. I think the big takeaway here is on those direct and indirect jobs, these are good-paying jobs. These are what we would recognize as kind of middle class, good-paying jobs.

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The induced jobs, the earnings there are less because they tend to be retail jobs that are lower-wage jobs, things like, like I said, expenditures in grocery stores, so it's the checkout people, stock people, it's waiters, waitresses, you know, for dining out and things like that. So it's lower there, but really the big earnings impact are in those first two categories.

Then finally we look at economic output. Economic output is a measure of, like, gross domestic product. It is measuring the value of goods and services in the economy. Output would include additional things that aren't included in earnings. So for example, property taxes, that is not earnings. Those are not earnings. They are a transfer payment.

Landowner lease payments are also transfers because they didn't -- it wasn't an earning as a job, it's rental of the land. So that's counted in the output measure but not in the earnings measure.

And again, we see significant impacts coming to both the County and to the State.

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Now I'll turn, second, to the property taxes.

I have a scary slide on the next slide that has lots of bullet points and things. I won't read you all of those bullet points, but I will point out that the -- in the state of Illinois, we have a -- in the law is written out how we are going to assess wind projects for property tax purposes. It's based on the megawatt capacity of the project. So it's not based on what they actually produce in electricity, it's the nameplate capacity of the project.

It also adjusts the value of the project year after year, depending on the consumer price index. The State calls it a trending factor. So in order to get an appropriate estimate of taxes, we need to make an assumption about inflation.

And so in this case, we try and take a very conservative view of inflation. We assumed 2.23 percent annually for inflation, and I'm sure the Federal Reserve would be thrilled if they could hold inflation to 2.23 percent. But

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I just wanted to let you know that we're not trying to overinflate those numbers. I think it's very likely, as an economist, that inflation will be well in excess of that. It could be double that over 30 years. But we wanted to have a very conservative look at what inflation would be.

In the law it says that you can -- the owner can depreciate the value of the project by 4 percent a year. So you get this push and pull. You get inflation rising the value up and depreciation pulling it down, in terms of its taxable value. So what you get is a year-by-year slight decrease in the value of the project subject to taxes.

The final thing that we did in this assumption -- in these assumptions was, we assumed that the tax rates for all taxing entities remain constant for the next 30 years. If you have lived in Illinois for any period of time, a typical experience is, the tax rates go up, not remain constant. So I think this, again, is a very conservative view of what will actually take place.

So here you can see the year-by-year taxes. Again, this was assuming a -- the start year. These will hold, although will even be bigger if the start year is later. But it's $2.4 million across all the taxing entities. You see year by year that decreases, but at no time does the project get fully depreciated; meaning that it goes to zero.

What happens in the law, it says that you can't depreciate the value of the project more than 70 percent of its original value or 30 percent remains there. Then it's still subject to the inflation factor, the trending factor.

So that's what's illustrated there in Year 2045, 2046, you see the bottom, and then 2047 you see it start to come up slightly.

So you see total property taxes of $48.8 million.

This is a breakdown. So that was the total taxes for all the taxing entities. You see 221,000 would go to the County general fund. There will be Townships, there will be multi-Township assessment districts in here,

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community colleges, fire districts, anyone that is a taxing entity. And we have broken that out by the project area and the portion of turbines that would be in the taxing footprint of those different entities, down to library districts as well.

But you'll know that the largest taxing district in Illinois is school districts. And so as we look at the one, two, three, four -- five different school districts, some of those are elementary school districts and high school school districts. The Princeton one there is -- would all receive money from this project, the biggest one being Bureau Valley School District that over the 30-year life would get $25.7 million in tax revenue.

Smaller amounts going to the other taxing entities because they have fewer turbines and obviously different tax rates for all of those.

So in summary, we're looking at 111 local jobs during construction; 22 long-term, permanent jobs during the life of the project; and in total 32.2 million, the majority of that going to Bureau Valley, but 32.2 million to all

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the school districts; 4.4 million to the County general fund; and overall, $48.8 million in property taxes.

ATTORNEY BARRY: Thank you, Dr. Loomis. I have no further questions at this time.

JUDGE SLAVIN: We'll turn it over to you, Ms. Donarski.

MS. DONARSKI: Sorry. I had to stretch for a minute.

EXAMINATION

BY MS. DONARSKI:

Q. I have a question for you about, on your PowerPoint presentation you showed how they depreciate over time.

When a project is repowered, does that take it back to the top and they start out again on the depreciation? Or how does that affect it?

A. Yeah, that would effectively restart it, for property tax purposes, based on the megawatts of the repower amount.

Q. Okay. And in a nutshell -- I know you explained it in depth, but in a nutshell, is the way that these are taxed are set by State

statute? Is that the bottom line?
A. Correct.
Q. Okay. So we have no local control over that? That's set through the State statute?
A. Right. The local entities control the tax rate but not the assessed value.
MS. DONARSKI: Okay. That's my questions, thank you.
JUDGE SLAVIN: How about you, Mr. Welbers?
MR. WELBERS: No questions for Dr. Loomis.
JUDGE SLAVIN: How about you, Mr. Jensen?

EXAMINATION

BY MR. JENSEN:
Q. So according to your chart, these figures, this is what they get every year?
A. Yeah, that's --
Q. So the townships, the fire departments, the schools and whatever?
A. Yes.
MR. JENSEN: Okay. Thank you.
JUDGE SLAVIN: Mrs. Smith?
MS. SMITH: I have no questions for Dr. Loomis.
JUDGE SLAVIN: Mr. Forristall?

MR. FORRISTALL: No questions.

JUDGE SLAVIN: How about you, Mr. Stutzke?

MR. STUTZKE: No questions.

JUDGE SLAVIN: In the audience, raise your hand.

Ms. Stetson.

EXAMINATION

BY MS. STETSON:

Q. I would like to go back to the job slide, if we could.

You mentioned retail. How does retail come into this again?

A. Yeah, so that would be under those induced impacts.

What we're looking at is, if the project brings with it more jobs, the people will have more earnings and then they spend their money in the local economy. They are going to buy groceries, they are going to dine out, they are going to -- you know, entertainment, go to the movies and so forth.

Q. So you stated that 111 jobs during construction; is that correct?

A. Yes.

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Q. And you also stated that you -- the retailers may have to hire another person? Is that part of your description on jobs?
A. So the 14 jobs under Induced Impacts would be in that retail category.
Q. You stated for 111 people, that 14 jobs could be created?
A. Yes.
Q. I'm -- does this seem to be odd to you, that --
A. No.
Q. I guess -- the 22 long-term jobs that you said --
A. Yes.
Q. -- what are those jobs?
A. So the onsite labor impacts, those 2.3 jobs, would typically be wind turbine technicians and maybe a site manager on site for things.
Q. I'm counting.
A. All right.
So the indirect impacts would be those impacts from spending that the company would do. So they're -- just as a normal, you know, course of business, they are going to have spending in the local economy. They might go to, you know,

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Menards, Home Depot to pick up something that they need. More immediately, they're going to buy gas in the area.

And so we look at their budget for spending on operations for this site and then determine how much of that gets spent locally, how much of that is going to be purchased outside of the county.

And so that's a mix of jobs. I can't give you, like, a specific job title, because it's spread out over their spending of all the suppliers that they are going to be purchasing from.

Q. So you just -- did you just state that there was only two jobs actually from the wind turbines? The other jobs are outside sources, like your gas stations?

A. So to be clear, those 2.3 jobs are what we estimate as the impact for Bureau County. That does not mean that that's the total number of wind turbine technicians that would be working at the site.

Q. So you have a technician -- there's a technician here in Bureau County that will work

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on these? Or do you have a technician that travels throughout different counties?

A. I don't know. I am, you know, a consultant to the company. So I'm not sure how they're organizing their --

Q. So your report states that that job is hired through Bureau County; is that correct?

A. Yes.

Q. And that's the only place that you're saying that this one person goes to, is Bureau County?

A. Those are the jobs that are for Braided Creek that is in Bureau County.

MS. STETSON: I have no further questions.

JUDGE SLAVIN: All right. Any other -- yup. Come on up.

I'll ask you to start with your name, and spell your last name.

MS. WIRTH MAZZORANA: My name is LaDonna Wirth Mazzorana.

JUDGE SLAVIN: And would you spell your last name, in case she didn't catch it, the court reporter.

MS. WIRTH MAZZORANA: Wirth is W-I-R-T-H. Mazzorana is M-A-Z-Z-O-R-A-N-A.

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JUDGE SLAVIN: And Ms. Stetson has already told us. Where do you -- do you live, work or reside within the project area?

MS. WIRTH MAZZORANA: Within five minutes.

JUDGE SLAVIN: I'll say it again. Do you live or work or own property in the project area?

MS. WIRTH MAZZORANA: No.

JUDGE SLAVIN: Do you live, work or own property in Bureau County?

MS. WIRTH MAZZORANA: Yes.

JUDGE SLAVIN: Okay. Go ahead.

EXAMINATION

BY MS. WIRTH MAZZORANA:

Q. So how is this going to affect my property taxes? I understand the schools and things get an advantage, but how is it going to affect my property taxes?

A. That's a difficult question to answer. I can say that this -- what I can say definitively is, this would be the amount that this project would pay into those various taxing entities, but then it would be up to the County Board to say what they do with that additional revenue.

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They would have three choices. They could -- with this increased revenue from this project, they could:

Lower property taxes;

Secondly, they could spend that money on projects that they deem to be appropriate and keep the tax rates the same, or the same as otherwise;

And then the third option is to do some -- some combination of that, to lower some tax rates and engage in some spending.

Q. Have you worked with other projects in Bureau County?

A. Yes.

Q. And if it had a negative impact on your business, does -- how does that relate to the taxes? Have you seen any of that?

JUDGE SLAVIN: Well, which question do you want him to answer first?

MS. WIRTH MAZZORANA: Either one.

Q. (By Ms. Wirth Mazzorana:) Have you seen a negative impact if a business is affected?

A. I have not seen a negative impact from wind projects coming -- new projects coming in to

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Illinois.

MS. WIRTH MAZZORANA: Okay. All right. Thank you.

JUDGE SLAVIN: Any other Interested Party, by raise of your hand?

(No verbal response.)

EXAMINATION

BY JUDGE SLAVIN:

Q. Well, Doctor, isn't it true that the first blush determination of the property tax would be the taxing entity's decision how much they want to levy on any proposed tax year? Isn't that right?

A. That's correct.

Q. So the answer to your question "how is it going to affect your taxes" is a function of a number of things; isn't that right?

A. Yes.

Q. Primarily the levies that are entered with the county clerk, correct?

A. Yes.

JUDGE SLAVIN: Okay. Redirect, Mr. Barry?

ATTORNEY BARRY: No, thank you.

JUDGE SLAVIN: Okay. You may step down.

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Thank you.

Break time. Let's come back at 7:30.

(A recess was taken at 7:19 p.m. and proceedings resumed at 7:33 p.m.)

JUDGE SLAVIN: You may call your next witness.

ATTORNEY BARRY: Thank you. I would like to call Gabriel Weger to the podium.

JUDGE SLAVIN: Mr. Weger, do you want to raise your right hand.

GABRIEL WEGER,

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

JUDGE SLAVIN: Have a stand.

EXAMINATION

BY ATTORNEY BARRY:

Q. Good evening, Mr. Weger.

A. Good evening.

Q. Could you state your full name for the record, please.

A. Yes. It's Gabriel Weger, G-A-B-R-I-E-L, W-E-G-E-R.

Q. And who do you work for, Mr. Weger?

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A. Burns & McDonnell Engineering Company.
Q. What's your position with Burns & McDonnell?
A. I'm the section manager and technical service lead for our acoustics department.
Q. And can you -- I know we have got a PowerPoint presentation. It's in the process, hard copies of which are being distributed.

Can you tell us a little bit about your background, please?

A. Yes. I have a bachelor's in environment -- civil environmental engineering from the University of Missouri; post-graduate courses in acoustics; been working at Burns & McDonnell for the last 13 years doing acoustics and noise control for all different industries, many of which are power related: wind, solar, battery storage, natural gas generation, industrial noise control. I lead up that department. We have acoustic engineers in Kansas City, Chicago and Florida that all report to me.
Q. Have you worked on any other wind projects previously?
A. Yes, I have.
Q. Approximately how many?

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A. More than 50.
Q. How many of those, if you know, in Illinois?
A. At least ten.
Q. Have you worked on any projects, wind projects, in Bureau County?
A. Yes. Crescent Ridge.
Q. Thank you.
All right. I think -- and so what's your connection to the Braided Creek Wind project?
A. I completed the sound study for the wind project, predicted sound levels as a result of the wind project in operation.
Q. And is that one study or more than one study?
A. We did two studies. Very similar studies; two different turbine manufacturers, one being GE, one being Vestas.
Q. And are those studies included as Appendix K as part of the application materials?
A. Yes, they are.
Q. Okay. Again I referenced the PowerPoint presentation a few minutes ago. So if you can please proceed and take us through your presentation, I would appreciate it.
A. Yeah, absolutely.

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So I already gave you my background on this slide. It's up on this screen. Worked for Burns & McDonnell in the acoustic department.

A little bit of background in acoustics. Just always give a refresher on acoustics. If we think about, a piano, it's easiest to talk about loudness and frequency, when you're looking at a piano, all the keys on the left-hand side are going to be lower frequency sounds. You hear that low frequency when you strike that key. To the right side of the piano are going to be higher frequencies.

Loudness is going to be how hard those keys are struck, and the frequency you hear is going to be determined on which you key you strike.

Just to be clear, most of you when you hear about noise or a sound level, you're going to think about that in dBA, which is decibel on the A-weighted scale.

The IPCB for Illinois is going to regulate sound unweighted. So individual octave bands will have their own decibel level that is the limit. Those sounds levels, per the IPCB, are

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not going to be weighted.

So we're going to talk about, in the presentation here, unweighted sound. It's just a slightly different metric than what you're probably most used to hearing, as far as dBA. The presentation will be in DB.

Q. You just referenced "IPCB." Can you tell us what that is, please?

A. Yes. That is the Illinois Pollution Control Board, which regulates noise throughout the state of Illinois.

Q. Okay. Thank you.

A. So we have got three levels of sound criteria that we generally look at for a project. There are no regulations at the federal level. There are guidance documents from the EPA. In the state of Illinois, any project in the state of Illinois is subject to the IPCB, which is in the Illinois Administrative Code, Title 35, Chapters 900, 901 and 910.

Then at the local level in Bureau County, there is an ordinance for wind turbine development that says that you must design your project to the IPCB standards. So they refer

back to the State regulations.

Sound level criteria for the State of Illinois. As I mentioned earlier, at the bottom of your screen you can see the unweighted octave band sound level limits. For each of those octave bands, you have a different criteria. The one we are most focused on is the thousand hertz.

For a wind turbine project, the thousand hertz typically is the octave band that is exceeded first. So we look at that first. We do our analysis for the entire nine octave bands. But, for simplicity, we look at the sound level contours, the 41 dB in the thousand hertz, because that's going to be the first one to exceed it. If the thousand hertz isn't exceeded, the other octave bands would not be. But we look at all of the octave bands.

The limits for the IPCB are based on Land Based Classifications Standards. Wind turbines are considered a Class C property. Agricultural land would also be considered a Class C property, but a residence on an agricultural property is going to be considered Class A. So

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we look at the property itself and the use of that property for how these limits are applied.

The sound level limits at the bottom of the screen are for a Class C property, wind turbine emitting noise to a Class A property residential use.

We complete an ambient sound level survey, three different locations around the project site. This was completed for four days. Measured sound levels during daytime and nighttime, just to see what the existing sound levels were in the project area and the average daytime and nighttime sound levels at those locations.

Q. So just to be clear, you took some baseline measurements of sound in the general vicinity of the project, correct?

A. Yes, that's correct.

We then completed a modeling study, and this is the biggest part of the sound study itself. It's a predictive study for how much noise would be generated by the wind turbines to the receiving residential land uses around the project.

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For this project, we modeled both different turbine models, the GE, as well as the Vestas, in two separate studies. So those aren't combined in the same report. Two completely separate reports. One looks at all the GE turbines, one looks at all the Vestas turbines, to see if there's any potential exceedances of that Class C to Class A standards.

The model we use is CadnaA. It's a front-end software that runs the ISO 9613-2 outdoor sound propagation standards. It's an international standard used all across the world for how sound propagates outdoors and downwind. It's a conservative estimation of project noise.

We looked at 468 residential uses and occupied buildings within two miles of project.

Q. Now, Mr. Weger, this is not a trick question, but why did you do a modeling study for the proposed project?

A. Yeah, it's how we look at what the potential impact is of the project. It's obviously not built yet, so we can't go out and take a physical measurement. We have to model it, and

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we base that model on conservative propagation standards to show that the project is not going to exceed the limits when it is built, so that we don't have to worry about building a project, investing all this money, and then running into an issue when it's operational, seeing how loud it is at those residential properties.

The model parameters. I have got a lot of points up here, but the main ones are the modeling assumptions that go into the study. Those ISO standards look at downwind sound propagation in all directions. Sound is carried by the wind. So if you're upwind of a source, you're not going to hear as much noise as if you were downwind on that source.

The model does not account for that. It assumes everything is downwind. So if you're at a receiver where I'm located and you have got turbines on all sides, the model is considering downwind sound propagation to you coming from all directions. So it's going to overpredict the sound from the project, but there is the potential that those sound sources could be propagated in that manner. So it's a very

conservative assumption, but it is the way that standard is written.

Couple other things. The last bullet here is a big one. The sound levels, as they propagate across the surface of the earth there's what's called ground absorption. Each time that sound wave strikes the ground, a little bit of energy is reduced.

What we have modeled here is a zero ground absorption. Ground absorption goes from zero to one. One being a soft grass-covered field or snow-covered area. Zero being a reflective, calm body of water. If you have ever noticed when you're across a lake from someone and they shout or a firework goes off, it's very easy to hear that because there's no absorption by that water. It's purely a reflective surface.

That's what our model is considering, that all ground surrounding the project is reflective. So it's going to over-count sound.

It's tough to see on our figures here, but this is the entire project operational. You have Vestas on the left-hand side, GE on the right-hand side. These sound contours, what

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they show is how sound would propagate away from the turbines themselves.

The contour lines that you can see, I believe, are 30, 35, 41, being the thousand hertz sound level limit, and then 45.

These contours are for the thousand hertz octave band by itself, because that's the first octave band that would be exceeded for the IPCB limits. But every octave band is analyzed as part of our study. If you look at the appendices of our sound study, you will see that the sound impacted every single receiver for every single octave band.

Then the last slide is -- one of the most important things we do -- for each of these receivers, we will zoom in on the property itself and look at the actual land use of that property. You'll have the residential structure itself, where you don't -- where you would be sleeping, but you may also have an agricultural property that's, say, 10 acres or 40 acres, and a small portion of that is used as residential, the rest of the land is farmed. The rest of that land would be considered Class C. But any

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land used for residential use -- lawns that are mowed, you know, activities around the house -- is going to be considered that Class A residential use portion of the property.

So this just zoomed in, we do this for every receiver that's part of the project to make sure -- if you see the red lines on the screen, that's the 41 dB contour. We just want to make sure that that doesn't cross onto any residential use portion of the property.

So the impacts are shown in that previous figure, but it's very tough to see when you're looking at the whole project. We go a step further in our analysis and look at this visually for each residential property.

Q. So this is just a zoomed-in version of the prior slide, correct?

A. Yes. These are the same two modeling results.

This one, difficult to see the impacts at the receiver itself. We zoom in on those structures. If you look in the middle of the screen, there's a little blue dot for the house, and then we look around that property and make sure that the sound contours do not extend on to

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that Class A portion of the property.
Q. So this is an example of a particular receiver, correct?
A. That's correct.
Q. And it shows that the noise contour at 41 decibels does not go on to the residential use, correct?
A. Correct.
Q. For this particular example.
A. Yes. For this site, we have got both turbines modeled here. So you can see slight differences between the left and the right figure. That's just because the turbines operate at slightly different sound levels.
Q. Okay. So this shows a turbine to the west and a turbine to the east, with a receiver in between?
A. Yes, it does.
Q. And again, it -- for both the Vestas model turbine and the GE model turbine, the red line, which depicts the 41 decibel limit under the IPCB rules, does not go on to the residential use, correct?
A. That is correct.

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Another thing you can see here is, these are almost concentric circles emanating from the turbines outward. That receiver in the middle of those two turbines, in reality you're going to have winds out of the west or out of the north or out of the east that's going to push the sound in one given direction. The wind would not be blowing from both turbines towards the home, but the model assumes that that could happen. So it over-predicts sound levels for a receiver that's going to be located between two of these turbines.

Even with doing that, we have no exceedances of the IPCB regs, which is what this last slide says: Predicted sound levels were modeled, and the modeling results show compliance with nighttime IPCB limits at the Class A portions of all residential nonparticipating properties.

We did that both with the model running at the receiver locations themselves, as well as visual inspections from those last two figures that we showed, making sure that contour doesn't extend onto a portion of a residential use.

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Q. You mentioned the nighttime IPCB limits. Are there daytime limits as well?
A. Yes. I should have mentioned that. The wind turbines have the ability to operate at all hours of the day and night. The nighttime limits, I believe, are 9 or 10 decibels lower than the daytime limits, but because the wind turbine is not going to operate differently during nighttime and daytime hours, we have only looked at the nighttime limits because they're more restrictive.
Q. Thank you.
So just to summarize then, you created a model to examine the sound that would be generated by the proposed project, correct?
A. Correct. The potential for that sound to be generated, all turbines at their maximum sound power levels, all receivers downwind of every sound source, but yes, worst-case impacts, loudest impacts potentially from the project, times of lower wind speeds are going to have less of an impact than what's shown here.
Q. And in that model you included the proposed locations of the proposed wind turbines,

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correct?
A. That's correct.
Q. So you looked at the layout -- proposed layout of the wind project, correct?
A. Yes. For both GE and Vestas, the point source in the model is set to the hub height of the nacelle, and then the sound power level data is provided from each individual vendor, Vestas and GE, for their turbines for the worst-case sound power levels.
Q. So each of those turbines was a -- what we call a point source of emissions, correct?
A. That's correct.
Q. And then you examined the sound emissions coming from those turbines as they were projected on 468 occupied residences and community buildings, correct?
A. Correct.
Q. And the model shows, as this slide indicates, that the proposed project and the locations of the turbines will comply with the nighttime IPCB limits at the Class A portions of all residential nonparticipating properties, correct?

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A. That's correct.

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

JUDGE SLAVIN: How about you, Ms. Donarski?

EXAMINATION

BY MS. DONARSKI:

Q. I have a couple questions about the materials in our book.

Did you make those reports?

A. Yes, I did.

Q. The sound study report?

A. Yes.

Q. Okay. I just have a question for you, a couple of them.

Are there any -- just to go over, are there any exceedances at any nonparticipating residences on the GE layout?

A. There are no exceedances of the IPCB regs at any Class A portions of the residential use portions of the properties.

Q. Okay. Are there exceedances at the Class C portions of any of the properties? Or do you measure that?

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A. Yeah, so Class C to Class C for IPCB does not actually have any limits. So you would only be looking at Class A and Class B portions of the property. Class B would be commercial buildings, much higher limits than the Class A.

But the Class C to Class C, there are no limits for IPCB.

Q. If someone were to want to know what the -- like, on this chart on Appendix C1, that would limit, like, a receiver number -- if they want to know where their particular home is, what receiver number it is, how would they find that information?

A. Yes, so what we can do is, we have got the coordinates of all these receivers here. If you knew the coordinate of your home, you could match those up. I get that that would be difficult.

There's also the figures in the report, where if you know where your house is, you could potentially find out what receptor number that is. If there was a specific location, I'm sure we could try and find your home or whoever's home you're concerned with.

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Q. And then what if someone has agricultural property that they are planning on building a house, like it's -- you know, "I'm going to build in the spring," or something like that, and they wanted to know, is there any way of determining what the sound level would be at a certain position on that certain property?

A. You could look at it visually. Our figures in the reports are going to be on 11-by-17 sheets. That may still be difficult to see.

If there's a receiver that's not built yet -- I believe we only look at what's built currently in the approval of the project. But if someone knows they're going to build a house somewhere, we could add an additional receiver to that to see. Or they could find it on the map and just follow those contours to see what would be expected to be there.

MS. DONARSKI: Okay. Thank you very much.

JUDGE SLAVIN: Thank you.

Mr. Welbers?

MR. WELBERS: I have no questions.

JUDGE SLAVIN: How about you, Mr. Jensen?

MR. JENSEN: No questions.

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JUDGE SLAVIN: How about you, Mrs. Smith?

MS. SMITH: Yes, I have a couple.

EXAMINATION

BY MS. SMITH:

Q. So this modeling project has all been done by software --

A. That is correct.

Q. -- correct? Okay.

Which -- of the Vestas and the GE, which have -- do they have different sound levels?

A. They do.

Q. Which has the greater impact?

A. So the GE is the louder of the two turbines. They can be applied what's called a low noise trailing edge or a serrated trailing edge, which will bring those sound levels down a little bit, and then they can be applied noise reduced operating modes, which actually reduces the power of the turbines and it reduces the angular velocity of the wind turbine blades themselves to lower the sound levels accordingly.

So in the GE report, you'll see that some turbines have been applied those NRO modes, and then the Vestas you'll see some turbines have

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been applied the serrated trailing edge blades.
Q. So for each one, there is mitigation that could be done to lower that sound?
A. Yes, there's mitigation that can be done. They are mitigated and listed out which ones have mitigation in the report.

MS. SMITH: Okay. Thank you.

JUDGE SLAVIN: Mr. Forristall?

MR. FORRISTALL: No questions.

JUDGE SLAVIN: And, Mr. Stutzke?

MR. STUTZKE: No questions.

JUDGE SLAVIN: All right. Folks in the audience, by raise of your hand.

Connie, come on up.

EXAMINATION

BY MS. SMITH:

Q. Like the shadow flicker and -- do you have a number for each of these participants or nonparticipating, like a number that they can look up? I know you said something, but is there a sheet that is in that report that says that?
A. We do not have the names of the landowners in the report. The receptor numbers should

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match -- I'm saying "should," but they should -- we were given the same receptor files for flicker. My company also did flicker, as well as sound.

So if you know the receptor number for the residence in question, you should be able to find it in both reports.

If there is a question about a specific residence, we might be able to pull that. But we typically don't put the names of the landowners in the report.

Q. Why is that?

A. We typically are not given that information at the beginning of the study. We -- I'm sure it can be found.

For some individual receivers, where there's a question about, you know, "How loud is it going to be at my house," then we can go cross-reference those with the information that's provided by the Applicant.

But we were just given the receptor file, and then we predict sound levels at each of those receptors.

Q. It doesn't seem like more work for you to not

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put the person's name down than having someone call and ask for that. It just seems like a lot more work and harder for people to find their name.

JUDGE SLAVIN: That's a speech.

Is it more work for you to not put people's names in?

THE WITNESS: So I was provided the receptor file with just a listing of 1 through 468 on the --

JUDGE SLAVIN: That doesn't answer the question. Answer the question, please.

THE WITNESS: Is it more work?

JUDGE SLAVIN: Yeah.

THE WITNESS: It depends on how the file was provided to me. So if the file was provided to me with receptor names, just the REC and the number. If it was provided with a name and an address and a complete, you know, RGIS file, then it wouldn't be any more difficult to create another column in there.

Q. (By Ms. Stetson:) Do you believe that it's just -- that the people's names should be on the report instead of "nonparticipating" and

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"participating"?
A. I don't know that I have an opinion one way or the other. It's really just how the information is given to me.
I understand your concern. If it's given to me with everyone's names listed, then I can easily list it out in the report. It's just normally provided to me by the developer as receptor number.
Q. Do you believe that a report with all the names of nonparticipating and participating should be put in the report by the wind turbine company?
A. None of the nonparticipating receivers are --
JUDGE SLAVIN: I'm sorry, even without an objection, that's an objectionable question. What he believes has nothing to do with what we're talking about.
Q. (By Ms. Stetson:) How many feet from a home for the maximum sound are you talking?
A. Can you clarify the question a little?
Q. Well, for the nonparticipating person I'm thinking of right now, it's not very far from his home that this wind turbine will be. How many --

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JUDGE SLAVIN: Okay. Go ahead.

Q. (By Ms. Stetson:) How many feet are you -- would you say that they will not hear that, daytime and nighttime?

A. So audibility is a slightly different question.

At times of low background sound, there's the potential for the wind turbines to be audible. But we're looking at the IPCB limits, which are numeric values that the Applicant has to meet to get the wind project approved.

So all of the nonparticipating residences are below that threshold for all nine octave bands, regardless of which receptor is which.

Q. Does that report that's over here state that all nonparticipating landowners do not have any noise at all?

A. No, it does not say that.

Q. So some of these nonparticipating landowners will have noise?

ATTORNEY BARRY: I'm going to object.

You can answer the question, but I mean, he said he did a report that evaluated whether the project -- the proposed locations of the turbines will meet the standards that are in the

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Ordinance, as well as the Illinois Pollution Control Board regulations.

JUDGE SLAVIN: I understand your objection. I understand what you said. The question was simply, are -- I think you asked, are all nonparticipating residences going to be without noise?

THE WITNESS: They are all going to be below the IPCB standards.

Q. (By Ms. Stetson:) So you're saying that all I have to do is call the wind turbine company and ask them for their receptor number and get every one of the names on the sheet that says "nonparticipating" and I can get that?

A. I can't make that -- I can't say that they can provide that to you, but you can definitely ask them.

Q. Do you know if this company sent out letters stating to these nonparticipating that there's going to be some type of noise there?

A. That was not a part of my scope.

Q. What's the difference between the day and the night? I didn't quite get that.

A. Yeah, so what we modeled is, you have got two

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different limits. For daytime hours, with 7:00 a.m. to 10:00 p.m., there are higher limits due to more activity happening during the day.

At nighttime, when people are trying to sleep, the IPCB has lowered those limits -- I believe it's by about 9 or 10 decibels, but it's different for the various octave bands -- to further limit noise from the project.

We have designed our project to meet the nighttime limits at all hours of the day and night. Because that wind turbine can operate during the day or night, whenever the wind blows.

Q. Does your company work for the wind turbine companies?

A. I was hired by the Applicant, yes.

MS. STETSON: That's all I have.

JUDGE SLAVIN: Thank you.

Other Interested Parties, by raise of your hand.

(No verbal response.)

JUDGE SLAVIN: All right. Any redirect?

ATTORNEY BARRY: No, thank you.

JUDGE SLAVIN: You may walk away. Thank

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you.

Do you have any further evidence this evening, Mr. Barry?

ATTORNEY BARRY: No. We have additional witnesses that we intend to present tomorrow night.

JUDGE SLAVIN: Okay. We have been over everybody's availability tomorrow night. So I will recess this until tomorrow night, Tuesday, September 29th, beginning at 6:00.

MS. DONARSKI: The 30th.

JUDGE SLAVIN: What?

MS. DONARSKI: The 30th.

JUDGE SLAVIN: Did I say the 29th? I'm sorry. The 30th. Here at the Moose Lodge. It will be a little busy around here at the beginning, but so it goes.

Okay. Everybody have a good rest of the night.

(The hearing was recessed at 8:00 p.m.)

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Now on this 29th 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

Callie S. Bodmer
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