STATE OF ILLINOIS)
)SS
COUNTY OF LEE)

In the Matter of the Petition

of

BSW DevCo, LLC, Big Sky Repower

Lee County, Illinois

Testimony of Witnesses
Produced, Sworn and
Examined on this 17th day
of May, A.D., 2021,
before the Lee County
Zoning Board of Appeals

Present:

Mike Pratt
Gene Bothe
Glen Hughes
Rex Meyer
Bruce Forster, Chairman

Alice Henkel, Secretary
Dee Duffy, Zoning Enforcement Officer

Honorable Judge Timothy Slavin, Facilitator

APPEARANCES:

LEE COUNTY STATE'S ATTORNEY CHARLES BOONSTRA
of the Lee County State's Attorney's Office
309 South Galena Avenue, Suite 300
Dixon, Illinois 61021

Counsel for the County.

ATTORNEY DAVID D. STREICKER
of the firm of Polsinelli
150 North Riverside Plaza, Suite 3000
Chicago, Illinois 60606

Counsel for the Applicant.

In Totidem Verbis, LLC (ITV)

INDEX

Witness: ANDREW de PASS

Witness: CHRIS HOWELL

Witness: TERRY VAN DE WALLE

EXHIBITS

In Totidem Verbis, LLC (ITV)

JUDGE SLAVIN: All right. Good evening, everyone.

I call out of recess Lee County Zoning Board of Appeals hearing on Petition Number 21 P 1563, BSW DevCo, LLC's, latest petition for a Special Use Permit to repower an existing WECS development in portions of East Grove and May Townships here in Lee County.

In case you're trying to get onto Zoom but have lost the information, the Zoom Meeting ID is 915-3923-9154, and the password, if you need it, is 209840.

If you want to watch us and listen on YouTube, on your computer or cell phone, use your browser, go to www.youtube.com. In the search bar, type "Lee County IL," short for Illinois, "Zoning Board of Appeals." No need to be concerned with upper- or lowercase letters. Find the session date you want, presumably tonight, May 17th, and whala, you should see us.

If you need technical assistance with any of that, you may feel free to call Dee Duffy's hotline, 815.973.3449.

I note, honoring us with their presence

In Totidem Verbis, LLC (ITV)

tonight are the Chair of the ZBA -- is the Chair of the ZBA, Mr. Forster; Mr. Bothe is present; Mr. Pratt is present; Mr. Hughes is present; Mr. Meyer is present.

Representing the Petitioner, Mr. Streicker is present, with, I think I counted five representatives of his client.

The honorable Dee Duffy is present, as is her assistant, Ms. Henkel. The court reporter is present. Himself, of course, is present.

That makes one, two, three, four, five, six -- 11, 12, 13, 14, 15 bodies -- oop, Mr. Boonstra, the honorable State's Attorney, is present. That makes 16 bodies in the courtroom, well below the IDPH mitigation protocol of 50 in this room.

I understand there are no Interested Parties in this room or in the rear former jury deliberation room, and I am informed by Alice that there is one Interested Party joining us on Zoom.

MS. HENKEL: And they are gone.

JUDGE SLAVIN: I'm sorry?

MS. HENKEL: They have left.

In Totidem Verbis, LLC (ITV)

JUDGE SLAVIN: And they're gone. Okay.

MR. HUGHES: They might be back.

JUDGE SLAVIN: We have a total of 16 people in the hearing room and no Interested Parties, at least present. Let me know if somebody shows up.

All right. When we left off, Mr. Streicker, you were in the midst of presenting your evidence, and you may continue.

MR. STREICKER: Thank you, Judge. I would like to call Andrew de Pass.

JUDGE SLAVIN: Mr. de Pass, if you'll step somewhere and raise your right hand. Anywhere is fine.

(Andrew de Pass was duly sworn.)

JUDGE SLAVIN: Have a seat right above our wonderful court reporter and --

THE WITNESS: Is this going to be projected? Or everyone's got a copy?

MR. STREICKER: All the ZBA members have a copy, and it will be projected, as well as staff and the judge.

DIRECT EXAMINATION

BY MR. STREICKER:

In Totidem Verbis, LLC (ITV)

Q. Mr. De Pass, now that you have been sworn in, if you could please state your name and spell it for the record.
A. Richard Andrew de Pass.
JUDGE SLAVIN: Would you spell your last name for us.
THE WITNESS: D-E P-A-S-S.
JUDGE SLAVIN: I figured, but I wanted to make sure. Okay.
Q. (By Mr. Streicker:) And, sir, what's your current business address?
A. 2925 Richmond Avenue, 11th Floor, Houston, Texas.
Q. And how are you currently employed?
A. I'm employed by Vitol, Inc.
Q. And what is your position and job duties?
A. I am the head of renewables, responsible for our investment programs around renewable energy and alternative energy as well.
Q. And how long have you held that position?
A. Since May 1st, 2018.
Q. Okay. And how were you employed before that time, if it's relevant to what we're talking about?

In Totidem Verbis, LLC (ITV)

A. Prior, I was the global CEO of a solar company called Conergy, with operations in 14 different countries. Prior to that, most of my career was in private equity at City (phonetic) with a focus on sustainable development investments.
Q. So I take it you have a fair amount of experience in the renewable energy industry?
A. Yes.
Q. Okay. Approximately how many years?
A. I have been in this sector since 2006.
Q. Okay. And have you ever overseen the development of any renewable project or has it all been on the investment side?
A. Yeah, no, so when I was the global CEO of Conergy, we had developed and built over 2 gigawatts of solar primarily and then over my career as an investor in all sectors of renewable energy: solar, wind, and others.
Q. Okay. Great. That's good to hear.
If you could -- one last introductory question. If you could tell the Board members what your educational background is.
A. Yes. I went to the University of Western Ontario Business School and graduated in 1989

In Totidem Verbis, LLC (ITV)

and then moved to New York, and I also have a CFA.

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

Q. Okay. Mr. de Pass, I am going to hand you what's been marked as Petitioner's Exhibit 13. If you could take a look at it, please.

JUDGE SLAVIN: Well, you're the only one with any markings on it, so.

MR. STREICKER: No, I haven't marked it yet.

JUDGE SLAVIN: I want to make sure I get the right one, that's all I'm saying.

MR. STREICKER: Thanks.

JUDGE SLAVIN: Excuse me for interrupting. While he's looking, you marked that what?

MR. STREICKER: 13.

JUDGE SLAVIN: Thank you.

Q. (By Mr. Streicker:) Sir, have you seen this exhibit before?

A. Yes.

Q. If you can describe to the Board members what it is?

A. It's an overview of Vitol, who we are and what

In Totidem Verbis, LLC (ITV)

we do, and some key points about the Big Sky Wind Repowering Project.

Q. And did you personally prepare this exhibit?

A. Yes.

Q. Great.

At this time, why don't I turn it over to you to take the Board members through your petition -- petition, excuse me -- through your presentation, and we may call for some questions afterwards.

A. Okay. Perfect.

So Vitol, we're the world's largest independent energy trader. So our company was founded in Rotterdam in 1966. Our core business is the physical and financial trading of energy commodities. So that's crude, liquefied, natural gas, biofuels. We also are one of the biggest traders of power in the United States and other countries, as well as environmental commodities, such as renewable energy credits, solar renewable energy credits, and carbon.

Specifically, we've traded typically over a thousand terawatt hours of power annually, which is a lot.

In Totidem Verbis, LLC (ITV)

Just with regards to our financial performance, our revenue in 2020 was $140 billion. We have had 54 consecutive years of profitability, never losing money in a year, knock on wood. Investment grade credit rating from two agencies, and strong liquidity and conservative management of risk.

The company's actually privately owned by the employees, with no one employee owning more than 5 percent of the company. We have 1400 employees in around 40 offices.

With regards to investments, we have a long track record of investing in physical assets and infrastructure, taking advantage of secular trends in the commodities markets and now the whole energy transition, which is a very important topic for all companies, including oil and gas companies such as ourselves.

Our current investments in renewables in the Americas are about $1 billion. We have invested multiple billions, close to 8, in various different other types of businesses that are core to our training activities.

We can turn to Page 3.

In Totidem Verbis, LLC (ITV)

So we're a global leader in energy distribution. So what that means is that we physically move crude oil and other products around the world on the sea. We're the largest physical mover of crude oil in the world at any one time. About 20 percent of all the oil that's moving in the ocean is controlled by us.

We have refining operations, terminals to store the commodity, retail distribution, which means gas stations in different geographies, Africa, Australia and Europe. We're also moving into what is a cleaner source of energy in addition to renewables, which is gas and liquefied natural gas. I mentioned the power trading, and then we do have some upstream oil and gas businesses.

So this is just a pictorial overview of our energy business and assets.

Now, if we turn to Page 4, it's a bit cleaner. Our renewables footprint. So we have a global reach and we're growing into new geographies. I won't go through all of these, but just to give you an idea. In the U.S., and I'll speak to this, we have a portfolio of about

In Totidem Verbis, LLC (ITV)

700 megawatts operational under construction. Important to note that we just moved into renewables in the last two years, when I joined, so we think we have accomplished a lot in short order.

In addition to solar and wind, we also have launched an electric vehicle fleet business. This is to convert municipal buses, school buses and others to electric. We have battery storage investments in the UK, we have some hydrogen projects in the UK, biofuels, and then a big energy hub in Australia, and we have started to build solar of significant size in India.

Perhaps more relevant to our audience here is Page 5 -- to the Zoning Board, rather.

Renewable power generation in the U.S., I mentioned the 700 megawatts. We intend to grow this portfolio to multiple gigawatts in the next couple of years. Our team does have a lot of experience in solar primarily, but we also work with close partners such as Exus, Mike, who you heard from in testimony last session, who are true experts in onshore wind development and

In Totidem Verbis, LLC (ITV)

construction oversight.

So we have a couple of very large projects that are under construction or to be under construction. We have solar and storage in California. Large projects, 106 megawatts in Pennsylvania, and 102 in Maryland, and, of course, the 240-megawatt wind repowering project here in Lee and Bureau County, if approved by the County supervisors.

There's some advantages to consider with regards to Vitol as an owner of renewables. We have a significant capital base, which means ease and speed of execution with no need to raise construction debt or other forms of tax equity to monetize the tax credits.

We have development capital through the long-term ownership. So our objective is to be a long-term owner of assets. Also, as one of the largest power traders and environmental commodity traders in the U.S., we have a deep understanding of the relevant power markets.

In addition to solar, wind repowering is a key area of growth focus for Vitol, working with our operating partner, Exus.

In Totidem Verbis, LLC (ITV)

If we turn to Page 6, with regards to the specific project for discussion, Big Sky Wind here in Lee and Bureau County.

We intend to invest over $250 million to repower the entire wind farm with more efficient and reliable turbines. So Vitol acquired the Big Sky Wind Farm from Black Rock on April 15th, 2021, so this year.

Subject to County and other approvals, the repowering project is targeted to commence in June of this year. So we're in short order. The repowering project will be complete by third quarter 2022, fourth quarter latest. It will increase the production from the existing wind farm by 60 percent, or over 325,000 megawatt hours per year.

We'll be using top tier technology, Vestas wind terms -- turbines, rather, that are manufactured here in the United States in their Colorado operation.

I mentioned before, and I think this is relevant, is that Vitol is a strong sponsor. We have investment-grade credit rating, significant capital-based revenue, large power trader, and a

In Totidem Verbis, LLC (ITV)

significant commitment to renewable energy.

We are providing the funds for the entire project from our own capital, be it the construction and/or we're able to use the tax credit. We're not relying on third-party financing. This is very important because you know the project is going to get built. We already have significant capital invested in the project to secure the turbines, and, of course, we purchased the project from Black Rock to repower because in its current state it's not very efficient.

The major milestones that have been achieved, we have our turbine supply agreement and service management agreement executed with Vestas. The engineering procurement and construction contract for the balance of the plant is to be signed at the end of this month. So in short order, our Road Use Agreements are completed, and we have scheduled the Zoning Board of Appeals meetings for Lee and Bureau County, and of course the Lee meetings are underway now.

Experienced team. So in addition to

In Totidem Verbis, LLC (ITV)

Vitol, I mentioned Exus Management, who will be our development, construction oversight and asset manager. They have developed and operated multiple gigawatts of wind in the United States and true pioneers in onshore wind development and construction.

The power that's generated we expect to be sold to commercial industrial customers. We're in discussions with a number of users of significant quantities of power for data centers and otherwise.

And finally, Vitol is committed to the ownership of this project, but we're also committed to be part of the community and as helpful and involved as we can be in Lee County and Bureau County.

Page 7 is a more detailed overview of the project. The location we know, Bureau and Lee Counties. And ComEd locational delivery. The capacity, 240 megawatts, that number is not changing.

The wind farm has been in operation since 2011, and the repowering will be complete before the end of 2022, with it commencing hopefully in

In Totidem Verbis, LLC (ITV)

June. Importantly, how we refer to the efficiency of a wind farm is the net capacity factor. The net capacity factor prior to repowering was only 25.7 percent. Post-repowering it's 42 percent, because the Vestas wind turbines are much more efficient as the technology has advanced.

Previously we had the Suzlon wind turbines. Now we'll have Vestas. About 104 V120s, 2.2 megawatt, and five Vestas V110s. The capital stack is entirely from Vitol. Land leases, up to 45 years with a number of landowners within this county.

And the operations and maintenance provider right now is a company called Renew. They will be replaced by Vestas in a matter of, I believe, 60 days, and Vestas will provide a 20-year full-service contract for their turbines. And the asset manager, balance of plant, power management is Exus Management Partners.

I think on the next page, just a little pictorial, which hopefully you have seen already. We're replacing 114 turbines with 109.

In Totidem Verbis, LLC (ITV)

So five will be decommissioned. Capacity stays the same. We use the existing towers, but replace the nacelle, hub, blades and electric internals.

There will be no -- what it's called -- the towers will not be replaced and there will not be anything just dropping to the ground. Cranes will be used for the replacement of the nacelles and the blades, which together are called turbines.

There will be an addition of a small adapter between the existing tower and the new nacelles. All manufacturing structures of the tower will be replaced: platforms, ladders, cables, et cetera.

That is everything that is in Exhibit 13.

Q. (By Mr. Streicker:) Thank you, Mr. De Pass.

I had a couple questions that came to mind as you were presenting. One thing that struck me is that Vitol has only been in the renewable business in the Americas for two years, did you say, correct?

A. Yes.

Q. And it looked like, from your current

In Totidem Verbis, LLC (ITV)

portfolio, Big Sky is your signature wind project, correct?
A. Yes.
Q. So this really is an absolute high priority?
A. It's an absolute high priority for Vitol in the Americas and also from our Board. It's an important issue.
Q. That's good to hear.
And one issue we -- or question we talked about with Mike Speerschneider, who you mentioned, was currently, am I correct to say, that the power from this project is sold into the market?
A. Right now the power is sold into the wholesale market. We refer that to merchant.
Q. And currently the project will continue to sell merchant up to or less or until a specific power purchase agreement is entered into with an industrial commercial project?
A. Yes. So the plant will continue to be merchant. That is sold into the PJM wholesale market. Primarily Benchmark is my hub, or the Northern Illinois hub. And post-repowering, we expect to be contracting a power purchase

In Totidem Verbis, LLC (ITV)

agreement with commercial industrial types, likely technology or other companies that are purchasing significant quantities.

The C and I market is very robust to purchase renewable energy, with many companies, large and medium size, seeking to go net zero, which is to reduce their carbon emissions.

Q. Okay. And lastly, Mr. De Pass, in one slide you indicated that the production in the repower project would be approximately 60 percent higher than the current project; is that correct?

A. Yes.

Q. And if I am correct, the direct correlation there is that -- I believe you said the current capacity factor for the Suzlon -- the existing Suzlon turbines, is approximately 25.7 percent, and that will rise to approximately 42 percent with Vestas?

A. Yes, that's correct.

MR. STREICKER: Thank you, Judge. I have no further direct questions for Mr. De Pass.

JUDGE SLAVIN: Okay. Great.

How about you, Ms. Duffy?

MS. DUFFY: Nothing, Judge. Nothing.

In Totidem Verbis, LLC (ITV)

JUDGE SLAVIN: Mr. Boonstra?

MR. BOONSTRA: No, sir. Thank you.

JUDGE SLAVIN: Well, around the horn.

Mr. Forster?

MR. FORSTER: No questions at this time.

JUDGE SLAVIN: Mr. Pratt?

MR. PRATT: Just one quick question.

EXAMINATION

BY MR. PRATT:

Q. That 60 percent increase of production, how does PJM handle that? When you have an agreement to put so much in, now you're going to increase that 60 percent, how do they physically handle that?

A. Yeah, so from what I understand, you know, they're concerned about the 240-megawatt, sort of, peak production, and that is the basis for approval for the interconnection agreement. We go back to PJM to inform them of the equipment change, but the increase in the actual megawatt hours is not a significant factor, from what I understand.

Q. So they can't deny you --

A. No.

In Totidem Verbis, LLC (ITV)

Q. -- that increase?
A. No. That's -- from what I understand, they can't.
MR. PRATT: Okay. Thank you.
JUDGE SLAVIN: Mr. Hughes?
MR. HUGHES: Yes.

EXAMINATION

BY MR. HUGHES:
Q. Just a point of clarification. Currently it's going into the PJM, the ComEd wholesale market. How does that shift to the commercial industrial? How do you change?
A. Yeah, so it's a financial contract. It's not physical. So we're not, like, physically selling them the green electrons.
So it's called a virtual power purchase agreement, and that basically it is set against a reference hub, in this case would be NI Hub, which is Northern Illinois Hub, and ComEd. And then basically we will agree on a price for the power over a certain period of time, which we expect between 10 and 15 years, and it's a financial overlay. We actually sell the power into the PJM marketplace.

In Totidem Verbis, LLC (ITV)

And let's say our power purchase agreement price is $30 a megawatt hour. If the actual realized price is 35, then we pay the counterparty 5. If the real life price is 25 when we actually sell it into the market, we pay -- the counterparty pays us 5.

So it's a financial contract that overlays the actual physical sale of the power into the wholesale market.

So what it does for the project is, it takes away a lot of the power price volatility.

Q. And then, just to go back and clarify Mr. Pratt's point, it's not that -- it's not that you are increasing the peak megawatts, it's that you're providing them on a more -- a steadier basis, a more efficient basis --

A. Yes.

Q. -- so that you're getting more hours out of --

A. Yes.

Q. -- the turbines rather than increasing the actual power out of the turbines?

A. Yes.

Q. Okay. That's what I thought was the case, but I just -- clarifying.

In Totidem Verbis, LLC (ITV)

A. Yes.

MR. HUGHES: That's all I have.

JUDGE SLAVIN: Mr. Meyer?

EXAMINATION

BY MR. MEYER:

Q. How much more will your new customers pay in premium for the green energy?

A. So the conservative industrial customers, they actually will look to the wholesale markets and the futures to see where the power is actually trading. It's not that you get a premium. They are not paying really much more, frankly. All it does is give us security over 10 to 15 years of a fixed price.

So they're -- the C and I customers are contracted, but they are not really paying a premium at all. So the difference is, is that we don't have the volatility of the wholesale market, which could average 30 but it could go to 15 or it could go to 40.

So they're -- the Googles and the Amazons and the Facebooks of the world, in addition to the AT&Ts and other large companies that are contracting, they actually see it as

In Totidem Verbis, LLC (ITV)

economically sound, in addition to being green. This is a function of the fact that the cost for wind and solar has come down drastically and is equally and more competitive than fossil fuel alternatives.

MR. MEYER: Thank you.

JUDGE SLAVIN: Mr. Bothe?

MR. FORSTER: No questions.

JUDGE SLAVIN: I have a couple, and they're both not substantive, just to help me do my job for the ZBA.

EXAMINATION

BY JUDGE SLAVIN:

Q. Is it Vitol, Inc., or just Vitol?

A. It's Vitol.

Q. Vitol, okay.

A. Inc., but Vitol, yup.

Q. Which one? Which is the name of the company, Vitol, Inc., or Vitol?

A. Vitol, Inc., is the U.S. company.

Q. Okay. And you're employed by them?

A. Yes.

Q. Okay. Thank you.

And the other very nonsubstantive one --

In Totidem Verbis, LLC (ITV)

nonsubstantive one was -- either I zoned out or couldn't write fast enough -- what does NFC (sic) stand for?

A. Net capacity factor.

MR. HUGHES: NCF.

JUDGE SLAVIN: Back around to you, Mr. Streicker.

MR. STREICKER: Judge, I have one question along a similar line to yours.

REDIRECT EXAMINATION

BY MR. STREICKER:

Q. You used the term C and I customers. If you could just define that?

A. Commercial and industrial.

MR. STREICKER: Okay. Thank you. That's it.

JUDGE SLAVIN: You may step down. Thanks.

MR. STREICKER: Judge, if the Board is ready, we're ready to call our next witness.

JUDGE SLAVIN: Yes, you go.

MR. STREICKER: Call Chris Howell, please.

(Chris Howell was duly sworn.)

JUDGE SLAVIN: Thank you. Have a seat, as you know.

In Totidem Verbis, LLC (ITV)

THE WITNESS: That's a low seat.
JUDGE SLAVIN: Did you hit your knee?
THE WITNESS: Yes.
JUDGE SLAVIN: At least you didn't scream.

CHRIS HOWELL,

having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. STREICKER:

Q. Good evening, Mr. Howell?
A. Hello.
Q. If you could state your name and spell it for the record.
A. Yes. It's Chris Howell, C-H-R-I-S H-O-W-E-L-L.
Q. And by whom are you currently employed?
A. I am employed by the Burns & McDonnell Engineering Company in Kansas City.
Q. And what is your current business address?
A. 9400 Ward Parkway, Kansas City, Missouri, 64114.
Q. Mr. Howell, I'm going to approach you and present you with what has been previously marked as Petitioner's Exhibit 1, which is the petition for Special Use Permit in this matter.

In Totidem Verbis, LLC (ITV)

A. Yes.
Q. Sir, are you familiar with that document?
A. I am.
Q. Okay. Did you have input in the preparation of that document?
A. Yes, I did. I oversaw the general operations.
Q. Okay.
JUDGE SLAVIN: Keep your voice up, remember.
THE WITNESS: Apologies. Every time.
JUDGE SLAVIN: It's hard, I know.
Q. (By Mr. Streicker:) Am I correct to say, you oversaw, for Burns & McDonnell, the preparation of this application?
A. Correct.
Q. And then you reported to Mike Speerschneider, ultimately?
A. Yes, I did.
Q. And relevant to your testimony here this evening, are there any particular portions or exhibits to this application that you're primarily going to be speaking about?
A. Yes, specifically tonight I'll be speaking towards the sound study.

In Totidem Verbis, LLC (ITV)

Q. All right. And where is that in the application?
A. I believe it was Exhibit --
Q. Am I correct it's --
A. There we go. Exhibit J. Apologizes.
Q. Thank you.
And, sir, have you brought a presentation that you plan to give this evening?
A. Yes, I have.
(Petitioner's Exhibit Number 14 marked for identification.)
Q. I'm going to approach you and present you with what's been marked as -- what I am going to mark as Petitioner's Exhibit 14. If you could take a second to review that document.
And, sir, are you familiar with that presentation?
A. Yes, I am.
Q. And did you prepare the presentation personally?
A. Yes, I did.
Q. Thank you.
Why don't I turn it over to you now to take the Board members through the presentation?

In Totidem Verbis, LLC (ITV)

A. Sure. Thank you.

As mentioned, I'll be speaking about sound for the specific project and addressing specifically Lee County tonight.

JUDGE SLAVIN: Swallow that mic.

MR. HUGHES: Yeah, bring it closer.

A. First I'll give a quick introduction about myself, a quick introduction on acoustics, I'll talk about the sound level criteria that was developed for the project itself, the ambient measurements that were done, predictive modeling that was done, the parameters and inputs that were used, and then the results of that specific study.

All right. So as mentioned, I am Chris Howell. I am an elected member of the Institute of Noise Control Engineers. I have a bachelor's degree in mechanical engineering, post-graduate-level acoustics work. As mentioned, an elected member of the Institute of Noise Control Engineering, wherein they review your professional and academic career. You have to be recommended by an existing member of the society.

In Totidem Verbis, LLC (ITV)

I have been doing noise for little over 19 years. 21 years total of permitting experience.

I have done acoustical studies for many different industries, specifically wind power generation. Well over 6 gigawatts of wind turbine noise studies across multiple states. And I lead approximately 15 different projects within Illinois specifically.

Real brief introduction to my company. We're a fully integrated engineering, construction and environmental and consulting firm founded in 1898. We have 7500 employees. I believe it's about 7800 now. We're a top-ranked power and transmission and distribution firm in the United States.

All right. So acoustics overview. There's a couple different terms that get used when discussing the sound level of something. There's the sound power level and the sound pressure level. Sound power is the physical energy of that source, and sound pressure is the measure of that power at a distance. Essentially you're capturing the wave.

The sound is measured in decibels, and

In Totidem Verbis, LLC (ITV)

specifically what we hear is considered an A-weighted decibel just because of the frequency response of our ears. And then, as mentioned, frequency is the component of the sound that gives it a characteristic. Amplitude is the volume. Frequency is the actual characteristic of the sound.

And then typically we talk about equivalent sound level. An instantaneous sound level can be any value, but over a certain time period you give a single value to that, and it is essentially the average sound level over that time period.

There's a couple of rules of thumb to talk about, 3 dB, 5 dB, and 10 dB difference. A 3 dB difference is when somebody starts to notice a difference; 5 dB is when somebody can clearly understand a differential between two sound levels; and 10 dB is considered typically a perceived doubling of the sound levels.

All right. So the first thing that we typically do on any type of study, and specifically one like this, we start at the federal level, see if there are any federal

In Totidem Verbis, LLC (ITV)

criteria that would be applicable to the project. In this specific instance, EPA does not specifically regulate wind turbine noise. They have delegated that authority down to the State and County levels, and even further in some instances.

In Illinois, the Illinois Pollution Control Board does regulate sounds specifically. You can see Title 35, Subtitle H, they have very specific noise criteria that they have defined through a series of actions throughout the past wherein they now have very detailed criteria.

And then we go one step further and look to the local, the County and if there's a Township involved. And in this instance, Lee County does have a Code that requires a wind energy system to meet the IPCB regulations. So the overriding criteria for this type of project would then be the IPCB regulations.

The IPCB specifically regulates sound for land use classifications, and a turbine is considered to be an industrial-type source. So that land use is considered a Class C land. Agricultural land also happens to be a Class C

In Totidem Verbis, LLC (ITV)

land. And there is no noise limit for Class C to Class C-type areas. So what the IPCB does is, when you hit a residence, that then becomes a Class A land. So in our instance here, the project would be limited to a Class C to Class A limit. For this type of effort, we look at each of the individual octave band frequencies and we look at the nighttime limit as the overriding limit, since it's lower than the daytime limit, as our driving criteria for the project.

You can see the specific values that are given there in decibels for each of the nine frequencies.

All right. So the next step that we would do in a study, and for this particular one, because there's been multiple iterations, we didn't redo the ambient sound survey. There has not been significant development in the area. There has not been a large source moved in next to one of the wind turbines that would change the ambient survey that was done previously. So we would expect the existing sound levels that were measured to be pretty similar to what they were in 2018.

In Totidem Verbis, LLC (ITV)

We took four different time periods -- morning, noon, evening, and midnight -- in 15-minute measurements at 13 different locations. So we took a bunch of measurements and kind of came up with an overall picture of what the sound levels are existing in the area.

And as you can see there, there's a value there that says L-90. That's the sound level that it's exceeded 90 percent of the time, which is what Illinois uses as the ambient sound level. And sound levels range between 36 and 49 dBA at any given time.

And then existing sounds in the area is obviously where wind turbines, when they are operating, if you were near enough to one. Trains, planes, insects and wildlife, and things like that. The wind itself is actually quite noisy at some points.

This next figure is really hard to discern what's going on there. The yellow are individual wind turbines that exist. There are some measurement points called out on the figure. All of this is in the actual exhibit that's in the application. It's much easier to

In Totidem Verbis, LLC (ITV)

see in there than it is here.

The 13 measurement points are distributed throughout the wind farm there to capture sound near roads, near houses, things like that, to get a good picture of the overall ambient.

All right. So then the next step that we take is, we would do predictive modeling. Specifically, we use a model called CadnaA. It's a scaled three-dimensional model that takes into account a lot of different things. It's based on ISO standards, 9613-2 specifically, which is the standard method of predicting sound from industrial sources like this. It's pretty much the industry-accepted software and algorithms to use.

It assesses sound pressure levels based on octave bands. So we are -- it enables us to look at each of the individual frequencies that Illinois regulates, and then we looked out to 3 kilometers from the farthest-out turbine so we would capture any residences or other sensitive areas that would be impacted by the turbines.

All right. So then the parameters of the inputs that we used. There are 110 turbines

In Totidem Verbis, LLC (ITV)

included in the analysis. I understand that they're only building a hundred -- or only keeping 109 of the turbines. It was a mixture of the V110s and V120s. The terrain was included in the model, 10-foot contours from the USGS, and there were 273 receptors included in the model. I understand now that some of those particular receptors that were included in the model aren't necessarily residences, but they were included anyway.

So this -- what is in our analysis is going to be an overprediction of what would be out there in real life.

And then, lastly, their ground attenuation. We assumed the ground was semi-reflective, which is a pretty conservative approach to ground attenuation, especially for farm fields and things like that, that have soft dirt and some sort of, you know, leftover corn or anything like that that is definitely going to soften the ground. So a semi-reflective surface makes it a pretty conservative approach.

All right. Noise modeling was performed for the layout that exists and then with the 110

In Totidem Verbis, LLC (ITV)

turbines that were chosen for moving forward with. Again, it was a mixture of V110s and V120s. The hub height is where typically the sound is generated from, at a distance from one of these turbines. It does not matter if you're looking at the tip of the blade or the hub, the sound is essentially going to look like a point in space when you're this far away from them, because the turbines are not allowed to be built close to a residence. It doesn't matter if you're looking at a disk or a single point in space, it's far enough away that it's essentially the same thing.

And then the sound power level of the units was provided to us by Vestas. They used a method called IEC 61400 to determine these sound levels that they estimate these turbines will never exceed under maximum wind loads.

We used, you know, the worst-case sound level for each octave band. So maybe 8 meters per second or 10 meters per second or 4 meters per second; a specific frequency that was louder than the others. Because Illinois looks at each of those individually instead of aggregating

In Totidem Verbis, LLC (ITV)

them, we use the worst-case analysis moving forward.

Uncertainty is added to each of the turbines. You can see there, it's at 0.8 decibels. IEC specifically calls out that should be added for a variation during manufacturing of individual turbines. They can't replicate them exactly every time. It's about a 0.8 difference between turbines.

And then all turbines were considered to be operating simultaneously at maximum sound levels, which, again, is a pretty conservative approach.

All right. So then the conservative assumptions that were made, just to kind of recap them here. You know, the model assumes that atmospheric conditions are favorable for sound propagation and assumes that there's no vegetation in the area, so no stands of trees or anything like that.

Maximum sound propagation and worst-case directivity factors. So it's assuming that anytime a sound wave can reflect off something and head towards a receptor, it does. That's

In Totidem Verbis, LLC (ITV)

not always the case, but that's the way the algorithm treats it so that it creates maximum sound level predictions.

The model includes what's called a ground-based moderate and temperature inversion, which basically doesn't allow the sound to escape to the atmosphere. Sound is going to radiate in all directions, but if you have a low ceiling, the sound can actually hit it and travel further downwind than you would typically expect. So the model assumes that that's occurring right now.

Again, we used the worst-case sound level for each octave band, included the uncertainty factors, all turbines operating simultaneously, and then assumed a semi-reflective ground surface.

Another thing to note here that I put on the next slide specifically is that the model assumes every single receptor is downwind of every turbine. So if you have a receptor that's between two turbines, it's actually assuming that the wind is blowing from both directions, which is a physical improbability, if not

In Totidem Verbis, LLC (ITV)

impossibility, that the model assumes something like that. So, again, another instance of potential over-predictions that are included here.

So then -- so all of the -- all of the identified receivers were predicted values -- or were given predicted values. It was a logarithmic addition of each individual wind turbine. So if one wind turbine's impact was 35 and another turbine's impact was 35, adding those two together, you're going to have a total of 38, because it's not straight addition; it's logarithmic addition.

And then for -- just quickly looking at the results, a thousand hertz is typically going to tell you if you're going to comply or not in Illinois. Based on the physical characteristics of the way these generate sound and the way they regulate sound in Illinois, a thousand hertz is typically what triggers first. So that's the fastest way for us to look at it, is a thousand hertz. But we do go ahead and analyze all of the other individual frequencies as well.

So I do believe -- so there were

In Totidem Verbis, LLC (ITV)

exceedances in the initial model that we looked at, just like there have been on the previous iterations of this. However, noise waivers are being sought for the individual landowners, and I know that the Applicant is researching their options at this point to determine how to remove these exceedances from the overall project itself and fully intends to comply with the IPCB regulations before they -- you know, before they're done with the application here. And in all likelihood, that is a probability. It does not appear that that's going to be a problem.

And so then from there, we predict con- -- or predict contours over a gridded area. You can kind of see the blue -- light blue line there. That is the thousand hertz, 41 decibel limit. And you can see the turbines, yellow. The green little boxes are houses that are participating, and then there are a few nonparticipating residences within that blue line. That is where the waivers and things like that are being sought.

I believe that's all I have at this point.

JUDGE SLAVIN: I'm sorry?

In Totidem Verbis, LLC (ITV)

THE WITNESS: I believe that's all I have at this point.

JUDGE SLAVIN: Follow-up?

MR. STREICKER: Yes, Judge. Thank you.

Q. (By Mr. Streicker:) Mr. Howell --

A. Yes.

Q. -- in your presentation, you talked about the developer's currently looking at options to remove exceedances; is that correct?

A. Uh-huh.

Q. And would those be options to mitigate noise exceedances?

A. Potentially. Obviously you want people to participate in the project first. And if that is not an option, there are physical ways to manipulate the sound of the turbine. Whether it's de-rating it or some other form of mechanical fix to the turbine itself, you can reduce those sound levels below the IPCB regulations.

Q. Okay. So the first option would be to seek a noise waiver?

A. I believe so. That would be the most agreeable to everybody.

In Totidem Verbis, LLC (ITV)

Q. Okay. And then you would look at options to mitigate the exceedances?
A. Correct.
Q. Sir, if I could, a couple questions about the application. Is your current curriculum vitae included in the application?
A. I believe it's slightly out of date, but yes. A CV for me is included, yes.
Q. But I think that you -- you testified previously, but you have worked on a lot of noise studies for wind farms; is that correct?
A. Yes, I have.
Q. And how many in Illinois again?
A. It's in excess of 15 --
Q. Okay.
A. -- specifically in Illinois.
Q. And you also mentioned the background study that was done, am I correct, in November 2018?
A. Correct.
Q. Could you talk to the Board members about what the inputs to that background study are? How do you put one of those together?
A. So the background study is a physical measurement of the current environment out

In Totidem Verbis, LLC (ITV)

there. We actually have ANSI Type 1 noise meters that we use, and we will go out and we'll set up in different locations and take measurements of not just the operating turbines that are out there now but everything that's going on. Just take a, you know, acoustical snapshot of what's out there essentially --

Q. Okay.

A. -- daytime, nighttime, all that kind of stuff, to come up with overall values for the area.

Q. Is this an in-person area? Is it a computer simulation? Is it a combination of both?

A. No, that's an all in-person study.

Q. Talk about the crew that goes out there. Do they set up microphones? How does it work?

A. Yeah, so they will set up microphones. In this instance, there were 13 different locations. They moved them around throughout the day and night. So there would have been 13 times 4 different measurements taken; 15 minutes at each measurement location. Basically come up with an aggregated hour at each location over the day essentially.

Q. Okay. So this is a very methodical study --

In Totidem Verbis, LLC (ITV)

background study that's performed?
A. Correct, yes. IPCB has specific guidance on how to take these, and it would have followed that protocol.
Q. Okay. And approximately how long does it take to put one of those background studies together?
A. The background studies don't take all that long to physically measure the sound levels. It's actually culling through the data afterwards that takes a little while. It will take about a week to two weeks to fully capture that acoustical snapshot of the area.
Q. Okay. And as far as -- are there any standards that govern how that snapshot is taken?
A. Yes. So the IPCB has guidance in, I believe it's Subchapter H, Section 901. They have guidance on how to take ambient measurements.
Q. Okay. And would this guidance extend to things such as where the microphones go, their use of the background study?
A. For instance, with a source like this, there is not in their guidance. What we did is, we tried to take measurements in locations either where there were sensitive noise receptors or areas of

In Totidem Verbis, LLC (ITV)

interest. The -- typically it would be nearest to residences, is where we would have taken measurements, because that's who's most affected by something like this, right, so try to capture what they experience currently.

Q. Okay. And I think you said, sir, that the study did not need to be updated for 2018 for purposes of the study you included in application; is that correct?

A. Correct.

Q. And how specifically did you determine that?

A. So the -- it's my impression that there has not been a significant new noise source in the area near these specific residences where we had taken measurements in the past. So the acoustical environment should be fairly similar.

Q. Okay. And as far as the inputs in the report, you used data provided by Vestas, the anticipated turbine manufacturer?

A. Correct. For the modeling study, yes.

Q. Okay. And I think you mentioned, it sounded like, most of your modeling was done on essentially a worst-case scenario; is that correct?

In Totidem Verbis, LLC (ITV)

A. Yes, a significant amount of conservative assumptions go into it.
Q. Okay. So you took input from the manufacturer and you combined that against your background report, and that's how you were able to --
A. No, so the model values are actually compared against the IPCB limits themselves. A comparison of the modeling values to the measured values was not specifically included in the report. It was more for informational purposes of a comparison of existing to future potentially.
Q. And I think you mentioned that since we have modeled worst-case, you would expect that the actual -- any sound emissions from the repowered project would be lower than those predicted in the report, correct?
A. Yes. It wouldn't behoove the Applicant or me to underpredict sound levels significantly. So what I would expect, if we were to go out there and measure, would be at or less than the values that we have, and likely less.
Q. Okay. And as far as the worst-case assumptions in the study, I think you mentioned atmospheric

conditions could, terrain conditions could impact the studies?
A. Correct.
Q. Did you assume worst-case for all that?
A. So for terrain, it wasn't necessarily worst-case. We assumed ground absorption is much worse than it likely is in reality, which would dampen sound levels. Snow has a very high dampening effect. Ice has a very low dampening effect. We assumed essentially halfway in between there.

I would expect the ground of a farm field or something like that to be higher than half.
Q. Okay. And if there was actually crops growing in the field, would that be a good effect?
A. Yes, it would help scatter the sound waves as they hit the crops.
Q. Okay. So you're hoping crops scatter the sound waves in the summer, snow would dampen the sound waves in the winter?
A. Correct.
Q. Sir, am I correct, Exhibit J is dated April 2nd, 2021, the same as the application?
A. Yes.

In Totidem Verbis, LLC (ITV)

Q. And that was the date on which this report was completed?
A. Correct.
MR. STREICKER: Thank you, Judge. No further questions.
JUDGE SLAVIN: Mr. Boonstra?
MR. BOONSTRA: No, Judge. Thank you.
JUDGE SLAVIN: Ms. Duffy?
MS. DUFFY: No, Judge.
JUDGE SLAVIN: Mr. Forster?
MR. FORSTER: No questions.
JUDGE SLAVIN: Mr. Pratt?

EXAMINATION

BY MR. PRATT:
Q. You -- in your report you said you used nine conservative inputs/conservative assumptions. You had a list of them. I just counted them.
A. Yeah, and then the downwind is an additional one that was not included in that specific list.
Q. Okay. So have you ever went back and -- so you did your model based on them conservative inputs. Have you went back and found out what the conservative inputs equate to percentage-wise?

In Totidem Verbis, LLC (ITV)

A. Not percentage-wise. We have done some sensitivity analyses on the model in the past. It can make a couple of decibels' differential, depending on which specific item it is. If you were to add them all up, I wouldn't expect it to be more than 2 or 3 decibels, but it -- potentially an individual one could be about that on its own.
Q. So 2 decibels would be 5 percent of 41? Is that what you're saying?
A. Without doing the math, sure. And, again, a 3 dB differential is required before there's a noticeable change between two sound levels. So I would expect any of those conservative factors to add up to barely a perceivable difference.
Q. So then when you talk about noise waivers that are going to be -- tried to be obtained, are they different than what -- different people involved, different residents involved than the present project?
A. You would have to ask the Applicant about that. I believe most everybody is participating, but I do not know that specific answer.
Q. So will we know the -- who receives a noise

In Totidem Verbis, LLC (ITV)

Variance or waiver?
A. They are keeping a list of it, so.
Q. Will we know that?
A. I'd have to defer to the Applicant for that.
MR. PRATT: Okay. No further questions.
JUDGE SLAVIN: Mr. Hughes?
MR. HUGHES: Actually, that last point that Mr. Pratt touched on, I -- yeah, that's -- that covers it.
JUDGE SLAVIN: Mr. Meyer?
EXAMINATION
BY MR. MEYER:
Q. Do you know how many less waivers there may be with the Vestas turbines compared to the Suzlon ones?
A. I think that's the same question. I apologize, I don't know a difference. I don't know who currently has waivers for the Suzlons.
MR. MEYER: Okay. Thank you.
JUDGE SLAVIN: Mr. Bothe?
MR. BOTHE: No questions.
EXAMINATION
BY JUDGE SLAVIN:
Q. Is it true that after your modeling studies, 18

In Totidem Verbis, LLC (ITV)

participating landowners' residences received exceedances and 14 nonparticipating residents received exceedances?

A. So the study showed 16 nonparticipating residences with exceedances, but I believe a couple of those were not actually residences. One was actually a pile of dirt in a field and one was a cell tower.

Q. So it's 14 nonparticipating residences?

A. I believe so, yes.

Q. And 18 participating landowner residences?

A. I don't have the actual number, but that sounds correct, yes.

Q. Okay. Is that in the whole of the project or is that in Lee County only?

A. That's in Lee County only.

JUDGE SLAVIN: Okay. Based on my questions, back to you, Mr. Streicker, or anybody else, questions?

MR. STREICKER: I do have one follow-up, Judge.

REDIRECT-EXAMINATION

BY MR. STREICKER:

Q. Mr. Howell, we're here talking about the

repowering of the Big Sky Project, correct?
A. Correct.
Q. Does the fact that we're in a repowering context, where you know the exact locations of the turbines, help you create a more accurate study than if you were doing a greenfield project?
A. Yes, it does. There are always construction considerations for the project on a greenfield. When you get out there, you may need to move it a certain amount of distance to avoid, you know, a subsurface structure that you didn't know about or something like that. In doing so, that changes the predictions slightly from the upfront study.

For a study like this, where they're using the existing towers, the existing foundations, all of that, we won't see a shift from where we currently are. So I would expect that what we predict at this point is the worst-case impact.

MR. STREICKER: All right. Thank you, sir.

JUDGE SLAVIN: You may step down.

MR. STREICKER: We have one more witness

In Totidem Verbis, LLC (ITV)

tonight, Judge. I don't know if we want to take --

JUDGE SLAVIN: All right. It's a little early, but let's take a break. Say -- well, that clock is pretty accurate. I have got two minutes before 8. Let's just say five after.

(A recess was taken at 8:01 p.m. and proceedings resumed at 8:09 p.m.)

TERRY VAN DE WALLE,

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

DIRECT EXAMINATION

BY MR. STREICKER:

Q. Good evening, Mr. VanDeWalle. If you could, please state your name and spell it for the record.

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

Q. And, sir, how are you currently employed?

A. I'm employed as a principal biologist with Stantec Consulting Services.

Q. Okay. And what is your current business address?

In Totidem Verbis, LLC (ITV)

A. 2300 Swan Lake Boulevard, Suite 202, Independence, Iowa, 50644.
Q. All right. And, Mr. VanDeWalle, I'm going to approach you with what's been previously marked as Petitioner's Exhibit 1, which is the Special Use Permit application in this matter.
Sir, are you familiar with that document?
A. Yes.
Q. And did you or your firm prepare any reports that are associated with that application?
A. Yes.
Q. Okay. And which one specifically?
A. The Site Characterization Report and a Bird and Bat Conservation strategy.
Q. All right. Is the Site Characterization Report marked as Exhibit F?
A. Yes.
Q. Okay. And is the Bird and Bat Conservation Strategy marked as Exhibit H to that report -- or application?
A. Yes.
Q. And were both of those reports prepared under your supervision?
A. Yes, they were.

In Totidem Verbis, LLC (ITV)

Q. All right. And, sir, have you brought a presentation with you this evening you would like to give the Board?
A. Yes, I have.
Q. All right. And, sir, I'm going to approach you with what I am going to mark as Petitioner's Exhibit 15.
(Petitioner's Exhibit Number 15 marked for identification.)
Q. Sir, are you familiar with that document?
A. Yes, I am.
Q. Okay. And is that the presentation you plan to give this evening?
A. Yes.
Q. And was that prepared by you?
A. Yes, it was.
Q. Okay. And I'm going to present you with two more documents, Mr. VanDeWalle. These have been previously marked as Petitioner's Exhibit 9 and Petitioner's Exhibit 10. Exhibit 9 is a letter, I believe, authored by you to Ms. Duffy dated March 11, 2019; and the second is a letter from the Illinois Department of Natural Resources to Ms. Duffy dated April 16th, 2021.

In Totidem Verbis, LLC (ITV)

If you could take a second to review those documents, please.

Are you familiar with those?

A. Yes, I am.

Q. Okay. And we can put those aside for a moment. I may come back to you with questions on those, but why don't I turn it over to you right now for your presentation.

A. Okay. Thank you.

Good evening, everyone. Good to see you all again.

Just to start with a little bit, we'll start with, I guess, my qualifications, a little bit about Stantec, and then we'll kind of get into talking about the studies that we did.

I do have a bachelor's degree in animal ecology and a master's degree in biology. I do currently manage Stantec's Independence, Iowa, office. Our office is primarily a renewables office, and so we do work on primarily wind farms but also solar and then we do a few other things, some road projects and transmission lines and pipelines, things like that, but primarily wind.

In Totidem Verbis, LLC (ITV)

I have been working as an environmental consultant for around 27 years now. The last 14 years primarily are principally in the renewables field, working on wind projects really all across the country. I have either conducted or supervised pre- and post-construction surveys and studies at wind farms, and then also permitting at wind farms at really almost now 160 wind farms in 22 states, and 35 of those wind farms here in Illinois.

Stantec is a large international environmental and engineering firm. We have offices really across -- or really around the world, have 22,000 employees, over 250 offices here in North America, and around 3900 environmental and engineering staff here in North America. 250 of those of our environmental staff are located here in our Midwest group.

In the last few years, Stantec has done environmental and engineering at around 400 wind farms. In the last 10 years, we have worked on around 1200 wind farms, principally in North America.

In Totidem Verbis, LLC (ITV)

And our -- the engineering -- or the Independence, Iowa, office that I manage, again, is primarily a renewables office, and we're recognized as one of Stantec's renewables hubs.

We have been -- you know, I and my staff have been working on Big Sky, at least this, sort of, current version of Big Sky, since 2018. I actually worked on the original Big Sky project back in 2008. But on the repower, we started working on it in 2018, and we really began with -- that's when the consultation with the Illinois DNR began by submission of the EcoCAT request. The EcoCAT is the Illinois DNR's online system for obtaining records of threatened and endangered -- State-listed threatened and endangered species in a project area.

So you submit a -- through their website, you submit a boundary for the project area and then the system tells you any known records for threatened or endangered species within certain buffers of the project area.

So we did that first in December of 2018, and then we get sort of an immediate answer on

In Totidem Verbis, LLC (ITV)

what those species are. But ultimately what that results in is a letter -- a consultation letter that comes to the County from the Illinois DNR, and we'll come back and talk about that here in a few minutes.

But we submitted the original boundary back in December of 2018, and it was revised back in December of 2018 then, and, again, that was for a previous owner of the project.

At that time, as part of that, we did realize or we recognized that there was some concerns with some State-listed species; specifically two turtles that we'll, again, talk about a little bit more in a few minutes. But as part of that, we did a threatened -- my company did a threatened and endangered species risk assessment. We discussed that with the Illinois DNR, and as a result of that, it was determined that a State incidental take permit would be needed for the project for the two turtle species.

And so in 2019 then we did prepare that -- the conservation plan, submitted that to the DNR, and then that conservation plan, along with

the incidental take authorization application, went out on public notice, and that public notice resulted in no comments. We didn't get any comments back at the time.

And we were ready to move forward -- the State was ready to move forward with issuing the permit. That then sort of got delayed through some of the ownership changes in the project, but we have reinitiated that now, and we have met with the Illinois DNR. As you can see on the slide, we met with them in March -- well, actually, step back.

The EcoCAT letters are only good for two years, those consultation letters. So we had to redo the consultation through EcoCAT. So that was done in March of this year. And so there was a new EcoCAT consultation letter that was issued on March 16th of 2021. We then met with the Illinois DNR to discuss the -- to introduce the new owner of the project, discuss the changes that took place, primarily that there would be fewer turbines decommissioned now, and asked the Illinois DNR whether there were, you know, any issues with the assessed incidental

In Totidem Verbis, LLC (ITV)

take conservation -- or the incidental take authorization application that was out there; in other words, or specifically, did it have to go back out in public notice? The answer from the Illinois DNR was, No, it did not.

We revised the Illinois -- revised the conservation plan and just submitted the final conservation plan last week to the Illinois DNR, at which time the DNR indicated that they would process the application and are looking to issue the permit either in June or July of this year.

So consultation has been ongoing on this project for the last few years and again in just the last couple of weeks.

We -- the studies that we did, the primary study we did was a site characterization report. We originally did this work back for the original -- you know, for the original owner, but nothing has really changed with the project boundaries specifically. So the report we did back then still is valid today.

That site characterization report was done based on the Fish and Wildlife Services Land-Based Wind Energy Guidelines, which does

In Totidem Verbis, LLC (ITV)

recommend a tiered approach to the studies. And so this slide talks about the three tiers that we follow. Tier 1 really is a -- kind of a large landscape approach. We look at where does the project site fit into the larger landscape? And in a particular -- what's land cover in the area? Are there any sensitive areas for wildlife, say, in the county, so in Lee County, or sometimes on a statewide basis?

Tier 2 kind of drills down more to the site. Now we're going to look at the specific site. What's the land cover on the site? Are there -- is there specific wildlife habitat on the site? Any areas that might attract wildlife? And it's really at this Tier 2 phase that the EcoCAT comes into play, because EcoCAT is looking at what threatened and endangered species are known from the area of the project site.

And then Tier 3 studies would be any field studies that were done. And we haven't done any field studies -- any wildlife field studies for this site.

There are some additional tiers in the

In Totidem Verbis, LLC (ITV)

Land-Based Wind Energy Guidelines, but those are all post construction and so don't apply yet at this stage.

So taking just a quick look at the site. Land cover at the site. And, again, we look at the land cover to get an idea of where -- you know, are there any attractions for wildlife, specific wildlife habitat? And, you know, probably not a surprise to you all, but this site is primarily agricultural. You know, around 87 percent of the project area is crops. And what that tells us is that there's not really a lot of natural habitat out there for wildlife, you know, or habitats to attract wildlife.

There is a little bit of forest, a little bit of woodland, and we'll talk a little bit more about that in a bit, and very little wetland.

In fact, if you go to the next slide, the other thing we look at is the National Wetlands Inventory, and the National Wetlands Inventory is a publicly-available database that gives us an idea of where wetlands are. For our

In Totidem Verbis, LLC (ITV)

purposes, the reason we look at wetlands is, again, as an attraction for wildlife. What you'll see here is that very little wetlands are within the project area. Again, you know, mostly crops. Not a lot of, you know, marshes or ponds or other attractions that might attract birds in particular.

So what we know from the site from this phase of it is, is there's very little wildlife habitat out there.

The Land-Based Wind Energy Guidelines do look at what they call species of concern, and in some cases these are groups, like migratory birds. So migratory birds are birds that are going to be -- might be here in the summer but fly south in the winter. So a lot of these are things that you're familiar with, cardinals and robins, some those types of birds. Some of the hawks do that as well.

So what we know is that because there's very little wildlife habitat on the project area or within the project area, there's very little habitat for these migratory birds. Migratory birds are really looking at the stopover

In Totidem Verbis, LLC (ITV)

habitat. They're going to be going from one place, whether that's here or further north from here, and flying south for the winter.

So what we're looking at when we look for wildlife habitat, is there any stopover habitat? That would be those wetlands, it would be woodlands, things like that.

So what we know is that there are limited streams, riparian corridors. Those are natural corridors along streams, for instance. Very little, you know, of those riparian corridors, woodlands within the project area. And as we said, very little wetlands as well.

Cultivated crops provide really no nesting habitat for birds. So there's no breeding bird concerns within those wildlife -- or within the cropped areas. And they don't provide a lot of stopover habitat for most migratory birds anyways.

We did look at some other publicly-available information regarding the bird species that are already out there. One of those is the breeding bird survey. Breeding bird surveys are conducted annually, typically in June, and these

In Totidem Verbis, LLC (ITV)

are standardized routes that somebody goes out and they look at birds, they record the birds that they see every year at the same locations.

And so if we looked at the breeding bird survey data that's been collected in the area since 1966, in this case, what we see is that the bird species that you see on the list are all, again, very common species we would expect to see really in these midwestern agricultural areas. So, again, things like robins, a number of the sparrows, barn swallows, cow birds, house sparrows, which are nonnative, mourning doves, cardinals. I'm sure a lot of the birds that you all see around here quite commonly. If you feed birds, you're going to see a lot of these birds, you know, eating in your backyards.

Eagles. Eagles are another species of concern, you know, the Land-Based Wind Energy Guidelines look at. Eagles are, although they're not threatened or endangered -- federally threatened or endangered anymore, they are still protected under the Bald and Golden Eagle Protection Act.

They are a special-concerned species here

In Totidem Verbis, LLC (ITV)

in Illinois. So the Illinois DNR doesn't track these. So you won't see anything related to eagles come up on the EcoCAT report because they are not currently State-listed.

Really, again, not a lot of what we would think of as typical eagle habitat within the project area. No large rivers, no large lakes. There is some woodlands which, you know, potentially could provide nesting habitat, but we don't have a lot of those water aquatic sources or water sources to provide food in the area.

So, again, we looked -- we didn't do any field surveys, but we looked at publicly-available data, we looked at Christmas bird counts. These are counts that are conducted through the Audubon Society called Christmas bird counts, because they're typically done on Christmas Day. Groups of volunteers go out to the same points every year, look within a certain radius of that point and count the birds every year on Christmas Day.

And what you can see on the slide is that during those counts, there have been eagles

In Totidem Verbis, LLC (ITV)

observed during the winter months. And, again, not a surprise. Eagles migrate. They come through here in the spring and in the fall and some travel through from the winter. Some may stay the winter, depending on the winter -- how severe the winter is.

So not a surprise to see them, you know, during the winter months, but not a lot of eagle activity, based on the data that -- you know, publicly-available data that we have.

The other group are the other birds of prey or the other raptors: the hawks, owls, falcons, things like that. Again, if you look at the list from either breeding bird surveys or Christmas bird counts, these are all common species that we would expect. Red-tailed hawks, great horned owls, American kestrel, these are all pretty common things that we would see around here.

The project, when it was originally constructed and as part of the repower, has already taken some measures to minimize the collision risk to birds. The turbines themselves are self-supporting. There's no guy

In Totidem Verbis, LLC (ITV)

wires. It is the guy wires that are really the concern, whether that's related to a cell tower or if it were a -- some other communications towers. It's the guy wires that are often the problem. In this case, there are no guy wires on the turbines, so less of a concern of, you know, just birds running into the towers.

All the collection and communication lines are buried, which avoids, again, birds running into those, also avoids electrocution risks, things like that.

The project substation, the substation lights are down-shielded and employees are instructed to turn down the lights associated with the insides of the turbines. The concern with the lights is that at night, when it's a foggy night or there's a low cloud ceiling, if there's a light that the birds can see, the birds hone in on those lights. So as they're flying over at night, they're migrating through, if they see a light, they may head towards the light. And when they head towards the light, they have to pass through that -- the rotor strike zone of the turbines and they are more at

In Totidem Verbis, LLC (ITV)

risk.

So by down-shielding the lights, turning down lights that are not needed, you can reduce the risk to the birds. So the project, again, has been, to my knowledge, already implementing that and will be during -- after the repower.

And then, you know, personnel that worked with the project, the O and M personnel, the operations and maintenance personnel, will receive periodic environmental awareness training and be instructed to note any wildlife mortality that they might see.

Threatened and endangered species. So, again, a lot of this -- some of this information comes from the EcoCAT report, some of it comes from other online databases that we searched through the Fish and Wildlife Service, for instance.

So there are records of a number of threatened and endangered species in the area. The two turtles: ornate box turtles and Blanding's; there's a butterfly: the regal fritillary; and then a number of plants as well.

Again, because this project area is

In Totidem Verbis, LLC (ITV)

primarily cropped, there's really no habitat for the plants in the area, and so the plants are not a concern.

Regal fritillaries need violets. That's their host plant. And, again, because of the -- really the predominance of agriculture, violets are not common -- are not going to be commonly found in the area either, particularly in the areas where, you know, the repowering activities are going to take place. So the butterfly is not a concern either.

So what we're left with then are the two turtles, which we identified early on as the two species that could potentially be at risk.

There is highly-suitable habitat for both the box turtle and the Blanding's turtle at the Ryan Wetland and Sand Prairie. That site -- actually, if you go to the next slide, we can look at the map. The Ryan Wetland and Sand Prairie is actually right in the middle of the project area, and that's a known site for the Blanding's turtles and the ornate box turtle as well.

So what we did is, you know, we looked

In Totidem Verbis, LLC (ITV)

at -- we know that the turtles are there. We looked at -- of the turbines within the project area, what, if any, of those would be risky for the turtles, and so we did a -- the threatened and endangered species risk assessment, and what we identified is that there are 22 turbines located within a mile of the Ryan Wetland and Sand Prairie, and then there were two additional turtles that were located in close proximity to a known occurrence of the turtles.

Of those 22 turbines that we considered to be potentially risky, there were 14 of those that were then identified as posing a risk during construction to the two turtle species.

And so what you're looking at on the screen or in your handout is the Ryan Wetland and Sand Prairie. The black-and-white dashed line is the one-mile buffer of the Sand Prairie. And then those turbines, the 22 turbines within that, again, 14 of those are the ones that are considered to be risky.

So there were some specific conservation measures then that were developed in order to avoid or minimize risk to the two turtle

In Totidem Verbis, LLC (ITV)

species. Specifically, those include that during construction at those 14 turbines that were considered risky, exclusion fencing will be installed around the construction area. So in this case, it's going to be silt fence. The exclusion fence is put up around the perimeter of the construction area. That prevents turtles from getting into the area while construction is occurring.

Right after the silt fence is installed, a bio monitor will go in and inspect the area. If there are any turtles caught on the inside, the turtles will just be picked up and moved to the outside. So this way, we can keep turtles out of the construction area while construction activities are occurring.

The fence will be visually inspected by the monitor during construction while -- you know, during any collector line upgrades or along the crane walks. So as the cranes are moving from one site to another, the bio monitor will essentially walk ahead of that equipment and make sure that there are no turtles in front of it so the turtles are not, you know, run over

In Totidem Verbis, LLC (ITV)

by the equipment as they -- as it's moving around.

And then periodically the bio monitor during construction will be inspecting crane -- or access roads and other areas, again making sure the turtles are sort of out of harm's way as equipment is moving along.

These are the conservation measures that Stantec developed as part of the threatened and endangered species risk assessment and these are the conservation measures that we have discussed with the Illinois DNR as part of the incidental take authorization.

There are two State- and federally-listed bat species that occur in the project area, or at least whose ranges include the project area. That's the Indiana bat and the northern long-eared bat.

We did a habitat assessment for the bats. These bats are both migratory. Indiana bats are a long-distance migrator, and northern long-eared bats are a shorter-distance migrator, but they both go to somewhere else to hibernate.

But during the winter, the females come up

In Totidem Verbis, LLC (ITV)

to these areas in Illinois and this is where they form their maternity colonies. So the females come up here, they get under the bark of dead and dying trees, and that's where they have their pups. A number of these females will all congregate together in one tree. Those are the maternity colonies that they form.

So the way that we then do a habitat assessment is we look for the woodlands, and we see if there are any suitable woodlands for the bats. And so that's what you see on the screen now.

We did do a habitat assessment. Kind of the teal color are the woodlands that meet the criteria as suitable bat summer habitat. So you'll see there is some habitat within the project area.

But, again, this is an existing project. So the turbines are already there, and at least a number of those turbines are located a distance from the -- from suitable habitat. And so by siting turbines a thousand feet or more from suitable habitat, you can avoid the risk to the bats. And so we'll talk more about that

here in a second.

So we do know -- you know, most people know that bats are susceptible to being -- to rotor strikes. So as the bats are flying around, they fly through that rotor strike zone and they can get hit by the turbine blade.

We also know there's this inverse relationship between bat activity to wind speed. So as wind speeds go up, bat activity goes down. And the reason for that is that, you know, the bats are very small. They only weigh, you know, maybe as much as, say, a quarter would weigh. So they are really small -- really small and don't weigh a lot. So on a high-wind speed night, they have trouble flying. In addition, they eat insects, and those insects have trouble flying on high-wind speed nights as well.

So the bats and their food are not out when the wind speeds are high. So what we know is that by raising the cut-in speed of the turbines -- so the cut-in speed is the wind speed at which the blades begin spinning and turn -- and generating power. By raising that so that they don't start spinning until a higher

In Totidem Verbis, LLC (ITV)

wind speed, we can reduce bat mortality.

So, you know, there are many studies that have shown that. The Illinois DNR understands that, the Fish and Wildlife Service understands that as well.

So the primary conservation measure that the project is going to adopt is raising the cut-in speed from its manufacture -- from the manufacturer's cut-in speed to 5 meters per second, and they are going -- so the project will raise the cut-in speeds to 5 meters per second during the fall season. That is the season of the highest risk for the bats.

So from April 1st through July 31st, so prior to fall, the project will raise cut-in speeds to 5 meters per second at those turbines that are within a thousand feet. So, remember, turbines more than a thousand feet from woodlands don't pose risk to the bats. So any turbines that are within a thousand feet prior to fall will have their cut -- will have its cut-in speed raised to 5 meters per second.

Those turbines that are more than a thousand feet from the -- from woodlands, the

In Totidem Verbis, LLC (ITV)

project will feather the blades below the cut-in speed.

What we know is that if you just simply feather the blades -- so turning the blades, pitching the blades sort of into the wind so that they are not free-wheeling, right, so when the project is not generating power, those blades are not just kind of pin-wheeling, turn the blade so they turn very slowly -- just simply by doing that you can reduce overall bat mortality by about 35 percent.

So during the non-fall season, again, turbines within a thousand feet will have their cut-in speed raised to five. Those outside will be feathered below.

During the fall season then, so from August 1 through October 15, turbine -- or cut-in speed will be raised at all turbines during that time frame. So during the period of highest risk, cut-in speeds will be raised at all turbines.

What we know is that raising cut-in speeds to 5 meters per second can reduce overall bat mortality by anywhere from 47 to 87 percent.

In Totidem Verbis, LLC (ITV)

And the Illinois DNR considers a cut-in speed of 5 meters per second to be avoidance of risk.

Okay. We'll just kind of quickly step through the consultation letter, the recommendations. So if you recall, we originally did the EcoCAT letter back in 2018. At that time, the Illinois DNR issued some recommendations. We had to redo the -- resubmit that and redo it here in 2021, and so we have a new letter that's dated, the April 16, 2021, letter.

I'll just note that the recommendations in the 2021 letter are exactly the same recommendations that were in the 2018 letter. The Illinois DNR did not have any additional or change their recommendations.

So just to kind of step through these, the first recommendation is that the DNR would, you know, recommend that the County require three years of post-construction mortality monitoring to do a statistical study to look at what bats are being killed at the project. And these post-construction mortality surveys are simply having people walk underneath the turbines and

look for dead birds and bats. We record those. And there are some statistical, sort of, correction factors that we use to estimate then how many bats in particular are killed.

So Big Sky does agree to comply with this recommendation, and as such will conduct three fall seasons of post-construction monitoring. During that time, there will be these standardized searches where we look under the turbines. Those bias correction factors that we use, those things that increase the precision of our estimate, includes search or efficiency trials and carcass persistence trials.

So these are all standard methods and the methods that the Illinois DNR and Fish and Wildlife Service, you know, recommends that we use.

We are limiting the post-construction monitoring to the fall, because, again, that is the season of highest risk.

Big Sky will maintain records, of course. And at the end of each monitoring season, a report will be prepared and -- the monitoring report will be prepared, submitted to both the

In Totidem Verbis, LLC (ITV)

County and the DNR.

If at some point during the monitoring the project finds a State-listed bat, you know, Big Sky will coordinate with the Fish and Wildlife -- or with the Illinois DNR and pursue an incidental take permit at that time.

Recommendations 2 and 3 are really sort of coupled with each other. The Department, you know, recommends that the County consider requiring the Applicant to curtail the wind turbines to 5 meters per second. As I mentioned earlier, the project is, you know, agreeing to do that. The turbines will be curtailed, some of the turbines -- you know, the turbines within a thousand feet during the summer, all turbines during the fall.

And then Recommendation 3 is that the Department recommends that the County consider requiring the Applicant to feather turbine blades when not in operation. So that is that feathering below the manufacturer's cut-in speed that I mentioned earlier. So outside of the period of risk, from April 1st through July 31st, all turbines that are not feathered

at 5 will be feathered below the manufacturer.

So the project is complying with both Recommendations 2 and 3.

Recommendation 4 really is just saying that if the project doesn't raise cut-in speeds to 5, then the DNR recommends an incidental take authorization. But in this case, the project is raising cut-in speeds to 5, and so it is following really Recommendations 1, 2, and 3.

Recommendation 5 then is related to the turtles and recommends that the avoidance and minimization measures that were discussed in the technical memorandum prepared by Stantec in February of 2019 be implemented. Again, as I mentioned earlier, all of those are being implemented. So that's the exclusion fence around the construction areas, the bio monitor who will be there to monitor during construction.

And Recommendation 6 then is related to an incidental take permit for the turtles, you know, again, recommending that the incidental take be sought for those turtles. As I mentioned, that's already in the works, the

In Totidem Verbis, LLC (ITV)

conservation plan has already been approved, gone out on public notice, received no public comments, and we just submitted the final plan last week. The Illinois DNR has indicated that they anticipate to issue the permit then in June or July of this year.

And then just lastly, the last recommendation relates to another species, a snake, plains hog-nosed snake. The DNR, you know, is recommending an incidental take authorization for the plains hog-nosed snake, but -- you know, the project did consider that, but there are no records of the plains hog-nosed snake in the vicinity of the project. The DNR acknowledges that. And in addition, there's very -- there's very little hog-nosed snake habitat within the project area, and the conservation measures that are being implemented for the two turtles -- again, the exclusion fence, the bio monitor, things like that -- are all the same conservation measures that you would use for the snake.

So, you know, it's felt that those measures are sufficient for protecting the

In Totidem Verbis, LLC (ITV)

snake. And so at this time, the project is not pursuing an incidental take permit for the snake. However, if during -- sometime during the life of the project, you know, it's determined that an incidental take permit or authorization is needed for the turtles, the project will pursue one.

That's it.

Q. (By Mr. Streicker:) Mr. VanDeWalle, if I could turn your attention back to Recommendation 6, the slide, the presentation, second-to-last one.

A. Sure.

Q. On Recommendation 6, if I am quoting accurately, it says: Be advised, it is unlawful to handle or move any listed animals without an incident take authorization or a valid research permit, comma, as appropriate.

Is that correct?

A. That's correct, yes.

Q. Okay. If you could describe for the members, incidental take permit sort of implies that you might kill one by accident. But actually, you may need a take permit to remove or save a turtle if it's perhaps in the path of a truck;

In Totidem Verbis, LLC (ITV)

is that correct?

A. Yeah, that's right. So if we think about take, take could either be injuring an animal, it could be killing an animal, or it could be picking it up and just simply moving it somewhere else. The State would consider all of those things to be take.

And then there is, you know, take that would be -- where it would be -- the intent of your activity would be to take an animal. So if I were to go out and, you know, just take my gun out and shoot, you know, a bat, if I could do that, shoot an Indiana bat, that would be take where I intended to go out and do it.

But then the other type of take is this incidental take. So it's take that is incidental to an otherwise lawful activity. That's the permit that's being pursued here.

Now, so we need to have that -- you know, the project needs to have that incidental take permit, in this case for the turtles, as a way for that incidental take to be legal. Now, if we're doing either the post-construction monitoring or the bio monitors out trying to

In Totidem Verbis, LLC (ITV)

move turtles out of the way so they don't get run over, there are separate permits that are needed for that. There's a State Threatened and Endangered Species Permit and there's a State Scientific Collecting Permit. So there's really two permits you need in order to do that.

And so whoever the bio monitor is will need to obtain those permits to be able to legally move, you know, say, a turtle out of the way.

Q. But that would be the ultimate intent, right, if a turtle is walking in front of a construction vehicle, that that turtle would be moved out of the way?

A. That's right, or if it's just inside the construction area. But yeah, that's the -- that is the intent and that's what the bio monitor would be doing.

Q. Okay. Mr. VanDeWalle, I handed you what's been previously marked as Petitioner's Exhibits 9 and 10. I believe you referred to those in your presentation, but if you could just explain for the Board members why those might be relevant?

A. Yes. So Exhibit 9 is a letter that I wrote,

In Totidem Verbis, LLC (ITV)

you know, I authored back in March of 2019. This was a response to the 2018 EcoCAT letter, and this is a letter that essentially walks through each of the recommendations in explaining what -- you know, what the project will do to comply with those. That's actually what we just went through in my testimony.

Exhibit 10 then is the April 16, 2021, EcoCAT letter. So the updated EcoCAT letter with the same recommendations that were in the 2018 letter.

Q. I think on the header of a number of your slides you had the April 2021 date; is that correct?

A. That's correct.

Q. Okay. And that would match up to that letter?

A. To Exhibit 10, correct.

Q. And, sir, we previously discussed that Exhibit F to the Special Use Permit application, which is the Site Characterization Study, and Exhibit H, which is the Bird and Bat Conservation Study, were prepared under your supervision; is that correct?

A. Yes.

In Totidem Verbis, LLC (ITV)

Q. And both of those studies, if I am not mistaken, were updated in March of 2021 for this application?
A. Yes, they were. They were updated with the new owner's information and any changes to the project that were required specifically, you know, the number of turbines that would be decommissioned.
Q. Decommissioned or repowered?
A. Well --
Q. Or just decommissioned?
A. It's both really, I guess, right? Because originally, in the original reports that we did, I think the project was intending to -- you know, the owner at that time was intending to decommission more turbines than what's being decommissioned now.
Q. Okay. And lastly, sir, I know you provided a number of bits of information about your background, but if you could, just briefly describe your relevant educational history.
A. Right. So, again, I do have a bachelor's degree in animal ecology and a master's degree in biology.

In Totidem Verbis, LLC (ITV)

MR. STREICKER: Thank you, Judge. That's all my direct questions.

JUDGE SLAVIN: Mr. Boonstra, questions?

MR. BOONSTRA: No, sir. Thank you.

JUDGE SLAVIN: Ms. Duffy?

MS. DUFFY: No, not right now.

JUDGE SLAVIN: Mr. Forster?

MR. FORSTER: No.

JUDGE SLAVIN: Mr. Pratt?

EXAMINATION

BY MR. PRATT:

Q. Did you have any -- did you do any work or consultation with the Ryan Wetlands?

A. I did not personally, but I know that -- but I think Mike Speerschneider did, so, but I have not personally, no.

Q. So you never had any consultations with Deb Carey, Mrs. Deb Carey?

A. I did not personally.

MR. PRATT: Thank you.

JUDGE SLAVIN: Mr. Hughes?

MR. HUGHES: I'll pass.

JUDGE SLAVIN: Mr. Meyer?

MR. MEYER: No questions.

In Totidem Verbis, LLC (ITV)

JUDGE SLAVIN: Mr. Bothe?
MR. BOTHE: No questions.
JUDGE SLAVIN: You can step down. Thank you.
MR. STREICKER: Judge, that completes all three of the witnesses.
JUDGE SLAVIN: Great. Off the record for a minute.
(A discussion was held off the record.)
JUDGE SLAVIN: We will recess tonight until Thursday, June 10th, at -- can we do 6 by then or not?
MR. PRATT: That's fine.
JUDGE SLAVIN: Is that all right?
MR. HUGHES: He says, Not all right, but. . .
MR. PRATT: No, that's fine. Go for it.
JUDGE SLAVIN: Rex?
MR. MEYER: Yeah, that will be fine.
JUDGE SLAVIN: Gene?
MR. BOTHE: Yes.
JUDGE SLAVIN: 6 o'clock. Everybody have a good interim and we'll see you again.

In Totidem Verbis, LLC (ITV)

(The hearing was recessed at 8:56 p.m.)

In Totidem Verbis, LLC (ITV)

On this 17th day of May, A.D., 2021, I do signify that the foregoing testimony was given before the Lee County Zoning Board of Appeals.

Bruce Forster, Chairman

Dee Duffy,
Zoning Enforcement Officer

Callie S. Bodmer

Callie S. Bodmer
Certified Shorthand Reporter
Registered Professional Reporter
IL License No. 084-004489
P.O. Box 381
Dixon, Illinois 61021

In Totidem Verbis, LLC (ITV)