

BEFORE THE OHIO POWER SITING BOARD

- - -

In the Matter of the :
Application of Republic :
Wind, LLC for a Certificate :
of Environmental :
Compatibility and Public : Case No. 17-2295-EL-BGN
Need for a Wind-Powered :
Electric Generating :
Facility in Seneca and :
Sandusky Counties, Ohio. :

- - -

PROCEEDINGS

before Mr. Jay S. Agranoff and Ms. Anna Sanyal,
Administrative Law Judges, at the Ohio Power Siting
Board, 180 East Broad Street, Room 11-A, Columbus,
Ohio, called at 9:00 a.m. on Tuesday, November 5,
2019.

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VOLUME II

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1 APPEARANCES: (Continued)

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14 Intervenors.

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1 - 3/29/2019 e-mail string
Subject: RE: Republic Wind
17-2295-EL-BGN, data request
(3/22/2019) I-56 418

9 - Notification of Public
Community Meeting and
Landowner/Supporter Dinner 298 418

10 - "Party in Your Plants!"
Postcard Invitation 301 418

11 - 12/19/2017 e-mail string
Subject: RE: Republic Wind
Public Comment Entries 302 418

12 - Exhibit F: Noise Impact
Assessment,
Republic Wind, LLC
Case No. 19-1066-EL-BTX 315 424

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SENECA COUNTY PARK EXHIBIT IDENTIFIED ADMITTED

1 - Aerial map 395 --

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Tuesday Morning Session,
November 5, 2019.

- - -

ALJ AGRANOFF: If the Applicant is
prepared to call their next witness, please do so.

MR. STINSON: I believe we had a
preliminary matter, Your Honor, with marking some of
the exhibits from yesterday.

ALJ AGRANOFF: Correct.

MR. STINSON: So if I could just go
through those for continued clarity.

Exhibit No. 1 is the Application and the
exhibits thereto filed February 2, 2018.

ALJ AGRANOFF: Hold on for one second.

MR. STINSON: The Supplement to the
Application filed March 27, 2018, has been marked as
Application Exhibit 1A.

The Notice of Clarification filed
April 11, 2018, has been marked as Applicant Exhibit
1B.

ALJ AGRANOFF: What was 1B again? I'm
sorry.

MR. STINSON: The Notice of Clarification
filed April 11, 2018.

ALJ AGRANOFF: Okay.

1 MR. STINSON: The Amended Application and
2 exhibits thereto filed December 26, 2018, have been
3 marked as Applicant Exhibit 1C.

4 Exhibit AA to the Amended Application
5 filed December 27, 2018, has been marked as Applicant
6 Exhibit 1D.

7 ALJ SANYAL: What was the date on that?

8 MR. STINSON: December 27, 2018.

9 The Notice of Project Modifications and
10 Project Information Update filed June 28, 2019, has
11 been marked as Applicant Exhibit 1E.

12 And in our errata filed yesterday as
13 Applicant's Exhibit 15, we struck lines -- we
14 struck -- essentially struck Exhibit 1F and that was
15 a Notice of Project Modifications filed October 21,
16 2019, that is not in the record. And as a result of
17 this, there will be no one 1F, so 1F will be voided.

18 Going further, the Unredacted Application
19 filed February 2, 2018, has been marked as
20 Confidential Exhibit 1G.

21 The Unredacted Exhibit G to the
22 Application filed February 2, 2018, has been marked
23 as Confidential Exhibit 1H.

24 ALJ SANYAL: I'm sorry, what was that one
25 again?

1 MR. STINSON: It was the Unredacted
2 Exhibit G to the Application filed February 2, 2018.

3 Unredacted Exhibit W to the Application
4 filed February 2nd, 2018, has been marked as
5 Confidential Exhibit 1I.

6 The Unredacted Amended Application filed
7 December 26, 2018, has been marked as Confidential
8 Exhibit 1J.

9 Unredacted Exhibit G to the Amended
10 Application filed December 26, 2018, has been marked
11 as Confidential Exhibit 1K.

12 And Unredacted Exhibit W to the Amended
13 Application filed December 26, 2018, has been marked
14 as Confidential Exhibit 1L.

15 ALJ AGRANOFF: I'm sorry, Mr. Stinson,
16 what was 1L again?

17 MR. STINSON: 1L is the Amended --
18 Exhibit W to the Amended Application filed
19 December 26.

20 Applicant Exhibit 2 is the Certificate of
21 Service of the initial Application, for local
22 government officials and libraries.

23 Exhibit 3 is the Certificate of Service
24 for local governments and libraries for the Amended
25 Application filed December 26, 2018.

Application -- I'm sorry. Applicant Exhibit 4 is proof of compliance with filing of the Application fee with the Board.

Application Exhibit 5 is the letter -- is proof of the letter to the property owners and tenants within the project or contiguous sites.

Applicant Exhibit 6 is the proof of publication of notice of the initial public information meeting that was filed December 11, 2017.

Applicant Exhibit 7 is the proof of publication of the notice of public information meeting on the Amended Application that was filed December 11, 2018.

Proof of publication of the initial Application is Applicant Exhibit 8 which was filed August 15, 2018.

Applicant Exhibit 9 is the notice of cancelation of the hearing that was published and proof filed with the Board pursuant to the Administrative Law Judge Entry of September 4.

Applicant Exhibit 10 is the proof of publication of the Amended Application that was filed April 12, 2019.

Applicant Exhibit 11 is proof of publication of notice of the cancelation of the

1 hearing pursuant to the Attorney Examiner's Entry of
2 April 26, 2019.

3 And finally, Applicant Exhibit 12 is
4 proof of the second publication of the Amended
5 Application and rescheduled hearing dates which was
6 filed September 5, 2019.

7 And just for the record, Your Honor,
8 those are detailed on pages 2 through 5 of Mr. Carr's
9 Direct Testimony, considering also the errata filed
10 which is Applicant's Exhibit 15

11 ALJ SANYAL: Thank you.

12 (EXHIBITS MARKED FOR IDENTIFICATION.)

13 ALJ AGRANOFF: Just one question,
14 Mr. Stinson. With respect to the errata and that
15 removal of 1F, is there a need to do any renumbering
16 within any of the other exhibits that may
17 cross-reference that original 1F or?

18 MR. STINSON: I don't believe so, Your
19 Honor.

20 ALJ AGRANOFF: Okay. And then with
21 respect to the exhibits that, Mr. Parram, we were
22 talking about earlier off the record that I wasn't
23 able to locate on the docket card, do you want to
24 walk through those real quickly?

25 MR. PARRAM: Yes, Your Honor.

1 Your Honor, yesterday we had a
2 conversation about a number of exhibits that you
3 indicated you were not able to locate on the docket.

4 Starting initially with Exhibit P in the
5 initial Application which was filed on February 2,
6 2018. Exhibit P is filed in the docket. The
7 description on the docket should say "Application
8 Exhibit O - Part 2 of 2 and Exhibit P electronically
9 filed by Teresa Orahood on behalf of Sally
10 Bloomfield."

11 ALJ SANYAL: What date is that?

12 MR. PARRAM: That is on February 2, 2018.

13 ALJ AGRANOFF: Okay.

14 MR. PARRAM: And with respect to Exhibits
15 H, M, N, P, U, and V of the Amended Application,
16 which was filed on December 26, 2018, those exhibits
17 are filed and are on the docket starting with
18 Exhibit H that was filed on December 26, 2018. All
19 of these exhibits that I'm referring to were filed on
20 December 26, Your Honor.

21 H is contained within the filing, the
22 document "Application Exhibit F Part 6 of 6, Exhibits
23 G and H electronically filed by Teresa Orahood on
24 behalf of Dylan F. Borchers."

25 Exhibit M is filed under the description

"Application Exhibit L through N electronically filed by Teresa Orahood on behalf of Dylan F. Borchers." And Exhibit M and N are under that description, Your Honors.

Exhibit P is under the description "Application Exhibit O Part 2 of 2 and Exhibit P electronically filed by Teresa Orahood on behalf of Dylan F. Borchers."

And then Exhibits U and V are under the description "Application Exhibit T Part 2 of 2 and U, V, and W electronically filed by Teresa Orahood on behalf of Dylan F. Borchers."

Is that sufficient, Your Honor?

ALJ AGRANOFF: Yes. Thank you, I appreciate you clarifying that.

Okay.

ALJ SANYAL: Mr. Carr, you may come up here. And I'd like to remind you that you are still under oath from yesterday.

And you may proceed whenever you're ready.

MR. VAN KLEY: Ready to go?

ALJ AGRANOFF: Okay.

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DALTON S. CARR

being previously duly sworn, as prescribed by law,
was examined and further testified as follows:

CROSS-EXAMINATION (Continued)

By Mr. Van Kley:

Q. Good morning, Mr. Carr.

THE WITNESS: This microphone is
flashing.

(Off the record.)

Q. (By Mr. Van Kley) All right. Yesterday
we asked a few questions of you about your background
and experience and I wanted to pick up with that
today. You mentioned that you were the Development
Director, I think you said, on several wind power
sites. Do you recall that testimony?

A. That wasn't exactly my statement.

Q. Okay. What's a correct statement of what
your positions are with regard to other power --
other wind power projects?

A. I've been involved in the development of
three wind power projects in Ohio. I'm currently the
Development Manager for the Republic Wind project.

Q. Okay. What are the other wind power
projects that you're involved with?

A. I've been involved with Emerson Creek

1 Wind and Emerson West Wind.

2 Q. And what are your capacities or roles
3 with regard to those projects?

4 A. This has been general development.
5 Anything from land work, you know, ensuring that we
6 have the required land resources in order to ensure a
7 cohesive project, to public outreach and engagement,
8 local involvement with schools and such, and also
9 coordinating to ensure that the project is moving
10 towards schedules.

11 Q. Now, with regard to the three projects
12 that you've been involved with the development, does
13 that include the transmission lines as well as the
14 turbines in all cases?

15 A. No.

16 Q. Okay. So with regard to Emerson Creek,
17 are you involved only in the portion of the project
18 that deals with turbines?

19 A. I've been generally involved in Emerson
20 Creek. I have not led the portion that would involve
21 transmission lines.

22 Q. Okay. What about Emerson Wind? That's a
23 project that is no longer under consideration; is
24 that correct?

25 A. Could you clarify which project you're

1 referring to?

2 Q. Emerson West. I'm sorry. Emerson West.

3 A. That project is actively under
4 development.

5 Q. It is? Okay. And are you involved in
6 the development of the transmission line for that
7 project?

8 A. That is not a current phase of active
9 development for that project.

10 Q. Okay. And what about Republic Wind, are
11 you involved in the transmission line for that
12 project?

13 A. Yes.

14 Q. And what's your role with respect to the
15 transmission line?

16 A. As Development Manager for the
17 transmission line project as well, I'm tasked with
18 ensuring that we complete and submit all studies
19 required by the OPSB. Excuse me.

20 Q. Now, I think, yesterday, we had a very
21 brief discussion about Mr. Arehart and whether he was
22 involved with the Republic Wind project. Do you
23 recall that discussion?

24 A. Yes.

25 Q. Okay. And is Mr. Arehart still with

1 Republic Wind?

2 A. Please clarify.

3 Q. Is he still employed, is he employed by
4 Republic Wind?

5 A. Republic Wind is a subsidiary of Apex.

6 Q. Yes. Is he employed by Republic Wind,
7 LLC?

8 A. No.

9 Q. Okay. Is he employed by Apex?

10 A. John Arehart is employed by Apex.

11 Q. Okay. Is Mr. Arehart still involved with
12 the Republic Wind projects?

13 A. John Arehart is generally aware of the
14 procedures of Republic Wind and has general
15 involvement.

16 Q. Okay. Go to page 9 of your testimony,
17 please.

18 A. Okay.

19 Q. I'd like you to look at Answer 22 on that
20 page. According to this answer, it appears that you
21 went through the public docket for this case to look
22 at the written comments; is that correct?

23 A. That's correct.

24 Q. In your answer you say that "Of these,
25 approximately 250 commenters supported the Project

1 and approximately 200 opposed it." With respect to
2 the commenters that support the project, do you know
3 how many of those people are being paid in some way,
4 by Republic Wind, for leases or good neighbor
5 agreements or for anything else?

6 MR. STINSON: I'm sorry, I couldn't hear
7 the end of -- I couldn't hear the end of the
8 question. Could it be reread, please?

9 MR. VAN KLEY: I can rephrase. I can do
10 it again.

11 Q. With regard to the 250 commenters that
12 supported the project, do you know how many of those
13 people are being paid by Republic Wind for leases or
14 good neighbor agreements or some other thing that
15 they might be paid for?

16 A. I don't have that figure for you.

17 Q. When you went through the docket to look
18 for comments, did you make note of whether the
19 commenters were being paid by Republic Wind or not?

20 A. I did not.

21 MR. VAN KLEY: Your Honor, I would like
22 to mark the next exhibit. I think we're up to 9; is
23 that correct?

24 ALJ AGRANOFF: Yes.

25 (EXHIBIT MARKED FOR IDENTIFICATION.)

1 Q. Exhibit 9 has your name at the bottom of
2 it, correct?

3 A. That's correct.

4 Q. And do you recognize this document?

5 A. Yes.

6 Q. Okay. What was the purpose of this
7 document?

8 A. This appears to be a notification to
9 landowners involved within the Republic Wind project
10 of not only the public meeting to be held on
11 November 29, I don't see a year listed here, but also
12 a dinner to be held the night before for those
13 involved in the project.

14 Q. Uh-huh. All right. And did you actually
15 have that dinner?

16 A. If my memory serves, we did.

17 Q. Okay. At the dinner did you ask the
18 people who were in attendance to submit comments to
19 the Board on behalf of Republic Wind supporting the
20 project?

21 A. We certainly encouraged that.

22 Q. Now, did you notice, when you were going
23 through the docket to look for public comments, that
24 a lot of the letters supporting the project were
25 identical?

1 A. Generally speaking, I noticed that there
2 were form letters both for and against the project.

3 Q. Do you know who wrote the form letters
4 for the people submitting comments in support of the
5 project?

6 A. I can't speak to all letters that were
7 form letters on the docket given there were some for
8 the project and against. However, I'm aware that
9 some form letters were written by members of the Apex
10 team and made available to the landowners at dinners
11 just like this.

12 Q. Did Republic Wind or Apex collect signed
13 letters at those dinners?

14 A. Yes.

15 Q. So the people who -- some of the people
16 who attended those dinners were given to -- were
17 given copies of form letters to sign, is that
18 correct, at the dinner?

19 A. Letters were made available to folks that
20 attended these dinners and if these landowners felt
21 that the ideas represented the way they felt about
22 the project, they may have been inclined to sign
23 those letters. However, we did not force anyone to
24 sign any letters.

25 MR. VAN KLEY: Your Honor, at this time,

1 I would like to mark the next exhibit as LR
2 Exhibit 10.

3 ALJ AGRANOFF: And what might that
4 exhibit be?

5 MR. VAN KLEY: That is -- appears to be
6 an announcement of some sort, entitled "Party in Your
7 Plants!"

8 (Laughter.)

9 THE WITNESS: It's pretty creative,
10 right?

11 (Laughter.)

12 MR. VAN KLEY: I'm introducing this
13 solely for its entertainment value.

14 ALJ SANYAL: That exhibit will be marked.

15 (EXHIBIT MARKED FOR IDENTIFICATION.)

16 Q. Do you recognize Exhibit 10?

17 A. Yes.

18 Q. What was the purpose of this document?

19 A. This was a postcard invitation to an
20 annual get-together for our landowners that are
21 involved in the Republic project, among other local
22 development projects.

23 Q. And at this get-together, did Republic
24 Wind provide form letters for its supporters to sign
25 and send to the Power Siting Board?

1 A. If my memory serves, we did certainly
2 have form letters at this dinner. However, it was
3 the landowners' decision whether or not that form
4 letter spoke to their opinion of the project and
5 whether they would sign such a letter.

6 MR. VAN KLEY: Your Honor, at this time,
7 I would like to mark the next Exhibit as LR
8 Exhibit 11.

9 ALJ SANYAL: The exhibit shall be so
10 marked.

11 (EXHIBIT MARKED FOR IDENTIFICATION.)

12 Q. (By Mr. Van Kley) Now, LR Exhibit 11 is a
13 series of e-mails, correct?

14 A. Is that question directed to me?

15 Q. Yes, sir.

16 A. Yes. This appears to be a -- some back
17 and forth between myself and Matt Butler of the PUCO.

18 Q. And the topic of these e-mails, generally
19 speaking, concerned the submission of support letters
20 by Republic Wind to the Power Siting Board, correct?

21 A. Was that "the public wind" or "Republic
22 Wind"?

23 Q. Republic Wind?

24 A. Yes.

25 Q. And these were letters that Republic Wind

1 collected from its supporters, correct?

2 A. As stated in the initial e-mail to Matt
3 Butler, "I'm attaching letters we collected during a
4 meeting with landowners, and would like them to be
5 added to the public comment section of the docket, if
6 possible."

7 Q. Generally speaking, was it Republic
8 Wind's practice to submit its supporters' comments to
9 the Board, instead of allowing the supporters to
10 submit their comment letters directly to the Board?

11 MR. STINSON: Could I have that question
12 reread, please?

13 MR. VAN KLEY: Yeah, I'll rephrase it
14 because it's not really well-worded.

15 Q. Was it generally Republic Wind's practice
16 to collect support letters from its supporters and
17 submit them to the Board, as opposed to allowing
18 those supporters to submit their comments directly to
19 the Board themselves?

20 A. So in your question you point to two
21 alternatives for submitting comments or otherwise to
22 the Board. Either agents of Republic Wind could
23 submit these comments to the docket or a landowner or
24 an interested party could do it themselves. However,
25 we found that it was simpler, given our experience

1 with this process, to do it ourselves if possible.
2 We'd essentially be taking some pressure off of a
3 landowner to go get a stamp, to mail this themselves.

4 Q. Do you know how many of the 250 -- well,
5 let me back off here.

6 With regard to the 250 commenters who you
7 say supported the project as stated in Answer 22 of
8 your testimony, do you know how many of the comments
9 or what percentage the comments for these 250,
10 approximately, commenters were submitted by Republic
11 Wind?

12 A. I don't have that figure offhand for you.

13 Q. Do you have an approximate estimate?

14 MR. STINSON: Objection. Calls for
15 speculation, Your Honor.

16 ALJ SANYAL: Overruled. You may answer
17 if you know the answer.

18 A. No.

19 Q. Would you go to the Application that --
20 or the Amended Application that was submitted on
21 December 26, 2018, and find Appendix E, the
22 Transportation Study.

23 A. Which was that?

24 Q. Exhibit E, the Transportation Study.

25 ALJ SANYAL: This was the one filed in

1 December of 2018?

2 MR. VAN KLEY: December 26.

3 ALJ SANYAL: Okay. And is Appendix E, a
4 specific exhibit within the Application?

5 MR. VAN KLEY: Yes.

6 ALJ SANYAL: Which one is it?

7 MR. VAN KLEY: It's Appendix E of the
8 Application which is entitled the Transportation
9 Study.

10 ALJ SANYAL: Yeah, I'm just trying to
11 find it on the docket.

12 MR. STINSON: Your Honor, if I could
13 clarify?

14 ALJ SANYAL: Yes.

15 MR. STINSON: The Amended Application is
16 marked as Exhibit 1C and that would include the
17 Amended Application and all the exhibits thereto. So
18 there's a narrative Application 1C and, attached to
19 that narrative application, are these exhibits,
20 Exhibit E.

21 ALJ SANYAL: Right. I don't have a copy
22 printed of the Application, so I'm just trying to
23 find it on the docket and it's hard to find on the
24 docket.

25 MR. VAN KLEY: If it helps, it's the same

1 document we were having Mr. Old look at yesterday,
2 that had that Figure 2 map on it.

3 MR. PARRAM: May I approach?

4 ALJ SANYAL: Thanks. So it's entitled as
5 an exhibit. Therein the confusion.

6 MR. VAN KLEY: Pardon me?

7 ALJ SANYAL: It's entitled as an exhibit
8 not an appendix.

9 MR. VAN KLEY: Oh, I thought that's what
10 I said.

11 ALJ SANYAL: Semantics.

12 ALJ AGRANOFF: An exhibit to the
13 Application.

14 MR. VAN KLEY: Right, right.

15 Q. (By Mr. Van Kley) All right. Mr. Carr,
16 would you turn to Figure 2 of Exhibit E of the
17 Amended Application of December 26, 2018, and tell me
18 when you've found it.

19 MR. STINSON: Your Honor, if I may
20 approach? I think you have my copy so I have to look
21 over Mr. Carr's shoulder.

22 Q. Have you found Figure 2?

23 A. Yes.

24 Q. Okay. Now, Figure 2 is a map of the
25 project area and surrounding areas, correct?

1 A. Figure 2 appears to be a previous project
2 area.

3 Q. A previous project area? Okay. Well,
4 has this map been updated for the purpose of this
5 project?

6 A. It appears that, elsewhere in this
7 report, I've located a map that's described as
8 potential routes to the project area. The map you're
9 referring to, the bottom right corner references a
10 date of December 2017.

11 Q. Okay. Actually, the copy that I printed
12 off of the docket has a date of November 2018. Is
13 that different, apparently, from what you're looking
14 at?

15 ALJ SANYAL: Yeah, I see November 2018 on
16 what I have pulled up on the docket.

17 MR. STINSON: Can we use that?

18 THE WITNESS: I think I'm resolving it
19 here. I don't believe we were looking at the same
20 Figure 2.

21 MR. VAN KLEY: Oh. The Figure 2 that I'm
22 looking at is dated November 2018. It's entitled
23 "Potential Routes (Project Area)."

24 THE WITNESS: Yes.

25 MR. VAN KLEY: Okay. All right. So have

1 you found that document?

2 THE WITNESS: Yes.

3 Q. (By Mr. Van Kley) Okay. And this
4 document reflects the current design of the project?

5 A. General speaking, this appears to be the
6 current project boundary. There are lots of turbine
7 points here. It appears to be the current project
8 design.

9 Q. Okay. Now, the turbine locations are
10 shown by little turbine figures, right?

11 A. That's correct.

12 Q. And are the locations of the turbines, as
13 noted on this figure, do they constitute the current
14 design of the project?

15 A. Unless otherwise updated in this very
16 same report for this filing, I would imagine so.

17 Q. Now, I've noticed the turbine locations,
18 as shown on this figure, do not appear to abut the
19 blue lines of the project area. Would you agree with
20 that statement?

21 A. Please define "abut."

22 Q. They're not right up against it. They're
23 not on the edge of the project area.

24 A. How would you describe "on the edge"? I
25 guess I'm confused. I want to make sure I can fully

1 answer the question.

2 Q. Let me ask the question in a different
3 way.

4 It appears from this figure that there is
5 land between the turbine locations and the blue line
6 that represents the boundary of the project area.
7 Would you agree with that statement?

8 A. Yes. By definition, compliance with
9 setbacks would ensure that we cannot site a turbine,
10 for example, on the border of a property which would
11 land us on this blue line; so yes, there's certainly
12 land between the turbine itself and the property
13 lines as demarcate with this blue line.

14 Q. Okay. So the area of the setbacks are
15 within the blue lines?

16 A. To my knowledge, that's correct.

17 Q. Now, are there parcels of property
18 located within the blue lines that are owned by
19 persons who are not participating landowners?

20 A. Yes.

21 Q. Why are the properties of those persons
22 included in the project area?

23 MR. STINSON: Can I have the question
24 reread, Your Honor? The last two questions and
25 answers.

1 ALJ SANYAL: Sure.

2 (Record read.)

3 A. The project boundary for Republic Wind is
4 intended to be one cohesive boundary and so we can't
5 simply cut around any single parcel internal to these
6 facilities that may not be participating.

7 Q. Would you go to page 52 of the Amended
8 Application of December 26, 2018, and I would refer
9 you to the version of that Amended Application that
10 is the unmarked version rather than the redlined
11 version. I believe we had some confusion about that
12 yesterday, some of us were reading from the redlined
13 version and some of us were reading from the unmarked
14 version and that resulted in some page number
15 differences?

16 ALJ SANYAL: Is there an unmarked version
17 on the docket?

18 MR. VAN KLEY: Yes.

19 ALJ SANYAL: Because I don't see it.

20 MR. VAN KLEY: If it helps, I've noticed
21 that, in the filings of December 26, 2018, they're
22 not all in the order you would expect them. I think
23 perhaps the redlined version might appear first --

24 ALJ SANYAL: Yes.

25 MR. VAN KLEY: -- and then the

1 Unamended --

2 ALJ SANYAL: Oh, it's on the very top.
3 You're correct.

4 ALJ AGRANOFF: Just out of curiosity,
5 what section are you looking at?

6 ALJ SANYAL: Page 55, you said?

7 MR. VAN KLEY: I'm going to page 52, and
8 I'll tell you, it's about groundwater. The first
9 title on that page is "(c) Mitigation."

10 ALJ SANYAL: As we find the document, I
11 am personally going to take a quick two-minute break.
12 So let's go off the record for two minutes.

13 (Off the record.)

14 ALJ SANYAL: Let's get back on the
15 record. Have we found --

16 MR. PARRAM: I need just another minute
17 to pull it up here.

18 ALJ SANYAL: Okay.

19 THE WITNESS: I'll have a digital copy.

20 MR. PARRAM: Okay, Your Honor.

21 THE WITNESS: I believe I have the
22 document. What was the page number?

23 MR. VAN KLEY: 52.

24 MR. STINSON: Could we also identify by
25 the section we're looking at, because some of us are

1 working off of the redlined version.

2 MR. VAN KLEY: Well, it's under
3 regulation 4906-4-07 if that helps. "Water" is the
4 subsection. And if you proceed through "Water"
5 you'll go to (C)(2) which is "Construction" and then
6 I'm going to direct him to (C)(2)(c) which is
7 entitled "Mitigation."

8 ALJ SANYAL: Mr. Stinson, we're also
9 looking at redlined version and that's page 54 on the
10 redlined version.

11 MR. STINSON: Page 54?

12 ALJ SANYAL: Uh-huh.

13 MR. STINSON: I have it, Your Honor.

14 ALJ SANYAL: Okay.

15 MR. STINSON: Thank you, Mr. Van Kley.

16 THE WITNESS: I'm on page 52.

17 MR. VAN KLEY: Okay. Very good.

18 Q. (By Mr. Van Kley) So, Mr. Carr, I wanted
19 to ask you a few questions about groundwater and
20 bedrock. Looking at the paragraph under the heading
21 of "Mitigation" on page 52, do you see where it is
22 stated in the last sentence that "Should groundwater
23 be encountered during excavation, water removal shall
24 be conducted in accordance with the following best
25 management practices"?

1 A. Yes, I read that.

2 Q. So is it anticipated by Republic Wind
3 that it may be necessary to dewater the excavations
4 for the turbine foundations or at least some of them?

5 A. I'm not aware of an answer to that one.
6 I will defer to Witness McGee regarding some of the
7 approaches here.

8 Q. Has Republic Wind done any borings in the
9 project area to explore the soils and/or rock?

10 A. No.

11 Q. Not even one?

12 A. No.

13 Q. Are you aware of the existence of
14 sinkholes in the project area?

15 A. I'm generally aware of the existence of
16 sinkholes in the surrounding region.

17 Q. Do you have -- approximately how many
18 sinkholes are you aware of in the project area?

19 A. I don't have a figure for you.

20 Q. How have you come to know or hear about
21 those sinkholes?

22 A. Karst topography has certainly been a
23 topic of some of the public comments received in this
24 project and it's one of those features that we model
25 in our desktop work as referenced in the

1 hydrogeological study and so Witness McGee will
2 actually speak to the work performed and any
3 identified known karst features in this area, prior
4 to any future geotechnical work, that will involve
5 borings at some later stage.

6 Now, understand that borings are not
7 required as of this stage of application review.
8 That is something certainly planned. The project is
9 where it needs to be at this point in time.

10 Q. Have any of the participating landowners
11 informed Republic Wind about sinkholes on their
12 properties?

13 A. I don't recall offhand. It's my
14 knowledge there were public comments submitted both
15 in the local public hearing that were held in
16 September and certainly some that were posted to the
17 docket separately with concerns regarding local karst
18 features.

19 MR. VAN KLEY: At this time, Your Honor,
20 I would like to mark the next exhibit as LR
21 Exhibit 12.

22 ALJ SANYAL: And what is this document?

23 MR. VAN KLEY: It's a document entitled
24 "Exhibit F: Noise Impact Assessment."

25 ALJ SANYAL: It is so marked.

1 (EXHIBIT MARKED FOR IDENTIFICATION.)

2 THE WITNESS: Mr. Van Kley, a bit of
3 housekeeping. Will you be referring any more to the
4 clean copy of the Application?

5 MR. VAN KLEY: I don't know. I think --
6 I think not, but it's possible.

7 THE WITNESS: I'll hand back the laptop
8 that I'm using and then just get it back over here --

9 MR. VAN KLEY: Yeah, that will be fine.

10 THE WITNESS: Okay.

11 Q. (By Mr. Van Kley) Mr. Carr, you've been
12 handed what's been marked as LR Exhibit No. 12, and
13 you'll see that the first page of this document is
14 labeled "Exhibit F: Noise Impact Assessment." At the
15 bottom of the page you'll see there's a notation that
16 says "Republic Wind, LLC, Case No. 19-1066-EL-BTX."
17 Do you see that?

18 A. Yes. This appears to be a transmission
19 line noise impact assessment for a separate
20 application under review by the Power Siting Board.

21 MR. STINSON: And for that reason, Your
22 Honor, I'm going to object to further inquiry on this
23 exhibit. It involves a different case. It's beyond
24 the scope of Mr. Carr's Direct Testimony, and
25 cross-examination is inappropriate.

1 MR. VAN KLEY: Your Honor, this is the
2 missing data that Mr. Old kind of obliquely referred
3 to yesterday. We found it on the docket of the Board
4 last night in the Republic Wind transmission case.

5 It contains sound measurements in the
6 project area and, thus, is directly applicable to
7 this case because this case deals, in large part,
8 with what the proper -- what the proper background
9 sound levels of the project area are. And it doesn't
10 matter whether it's been submitted as part of another
11 case, if it's relevant to this case then it should be
12 admitted as part of this case and I should be
13 permitted to cross-examine about it.

14 ALJ SANYAL: Do you have any other --

15 MR. STINSON: Well, your Honor, it's
16 highly inappropriate. We're being examined on a
17 different case, a different proceeding, and it's
18 highly improper to do that in this case.

19 MR. VAN KLEY: We're not examining him
20 about the other proceeding. We're examining him
21 about the sound measurements that were taken in the
22 project area and, I mean, the sound measurements were
23 taken in this project area in the case that we're
24 considering today.

25 This is the data that should have been

1 provided to us in discovery and it was not. And now
2 that we've discovered it, we found that it does
3 include noise measurements that are in the project
4 area and which should be considered by the Board as
5 evidence as to what the actual background sound
6 levels in the project area are. So I don't see how
7 anybody can claim it's not relevant to this case.

8 MR. STINSON: I object to Mr. Van Kley's
9 characterization of this as missing information and
10 discovering the information. As you well know from
11 yesterday's hearing and arguments on this issue, it
12 was a discovery issue, and Mr. Van Kley received
13 information that was contained within his discovery
14 request. Now he's trying to go beyond that discovery
15 request and introduce information from a different
16 case. It's not appropriate, Your Honor, it's not
17 relevant.

18 ALJ SANYAL: When was this filed on the
19 transmission line docket, do we know?

20 MR. PARRAM: Well before yesterday.

21 ALJ SANYAL: "Well before yesterday"?

22 ALJ AGRANOFF: And from the project area
23 or study area for the noise impact assessment, is the
24 project areas of both the case in which this
25 particular noise impact assessment was conducted for,

1 as well as the project area that is under
2 consideration in this case, are they identical?

3 ALJ SANYAL: Mr. Van Kley, have you
4 looked into it?

5 MR. VAN KLEY: Yes, I have.

6 ALJ SANYAL: And you think it's
7 identical?

8 MR. VAN KLEY: The -- the -- the figure
9 that is provided in Exhibit 12 --

10 ALJ SANYAL: Which figure?

11 MR. VAN KLEY: Exhibit 12, the document I
12 just gave you, is somewhat differently configured,
13 probably it might have been a prior layout, but you
14 can tell, from the locations that are provided for
15 the monitoring stations as well as the portion of the
16 project area that overlaps the current Republic Wind
17 project area and the Republic Wind project area as it
18 was configured back at the time when this document
19 was filed, that those measurements for sound are in
20 the current project area because there's some
21 descriptions of locations in the text that show you
22 what roads the monitors were set up near.

23 And if you compare that to the maps in
24 the Application, such as Figure 2 of Exhibit E of the
25 Amended Application of December 26, 2018 in the

1 present case, you can tell that those sound
2 measurements were taken in what constitutes the
3 present-day project area.

4 I would also add that Mr. Old, yesterday,
5 testified that with respect to several of the sound
6 monitoring locations that he used in this case that
7 are outside of the present-day project boundary that
8 those measurements are still relevant because he
9 believes they were close enough to the project area
10 and that they are representative of the land use and
11 soundscape of the current project area.

12 So even if Republic Wind were to argue
13 that the sound monitoring locations in LR Exhibit 12
14 are somewhat or slightly outside of the current-day
15 project area boundary, they would still be relevant
16 to this case because Mr. Old says they don't have to
17 be within the project area boundaries in order to be
18 relevant. So -- so this -- the sound measurements in
19 this document are relevant to this case.

20 I would also point out that this
21 information fell directly within the request for
22 documents that we made in this case, within two of
23 them. One was --

24 ALJ SANYAL: Do you have a copy --

25 MR. VAN KLEY: -- document request

1 No. 15.

2 ALJ SANYAL: Mr. Van Kley, do you have a
3 copy of that request?

4 MR. VAN KLEY: Yeah. I handed it out to
5 you just before --

6 ALJ SANYAL: Oh, yes.

7 MR. VAN KLEY: -- as we were starting the
8 day.

9 ALJ SANYAL: Yes, you did. Where did you
10 -- show me -- point me to the page.

11 MR. VAN KLEY: It starts on page 11.

12 ALJ SANYAL: Okay.

13 MR. VAN KLEY: It's Request No. 15.

14 ALJ AGRANOFF: Hold on. Okay. You said
15 15?

16 MR. VAN KLEY: Yes, Request No. 15. And
17 that request reads as follows: "All field notes,
18 noise measurements, and other documentation and data
19 relating to the noise study in the Application, or
20 any other study or measurements of background,
21 construction, or operational noise in the project
22 area." That's the first request that directly
23 applies and is very specific and it very specifically
24 applied to this data that's included in LR Exhibit
25 12.

1 The next request that applies is on the
2 next page, page 12, and it's Request No. 16, and this
3 request asks for "All photographs, reports,
4 correspondence, data, and other documents relating to
5 any background sound level survey performed in the
6 project area."

7 That, again, is very specific and it
8 is -- and like No. 15, No. 16 is not limited to just
9 the noise background study that was performed for
10 purposes of this Application. No. 15 specifically
11 says we wanted noise measurements relating to the
12 noise study in the Application as well as noise
13 measurements included in any other study or
14 measurement of background in the project area

15 ALJ SANYAL: Mr. Van Kley, when -- so
16 when did you make this request and when did you
17 receive the responses from Republic?

18 MR. VAN KLEY: We made the request in the
19 first or second week of September of this year, and
20 Republic's response is on the certificate of service
21 and it's dated to be October 15, 2019.

22 We had provided an extension to Republic
23 Wind to respond to this document request, and then
24 not receiving -- we did not receive documents by the
25 extended deadline but then Republic Wind provided us

1 with some documents, prior to the hearing, in
2 response to this request, including documents it gave
3 us on the Friday before this hearing started, as well
4 as some periodic productions of documents prior to
5 that time.

6 ALJ AGRANOFF: How --

7 MR. PARRAM: Your Honor, may I respond?

8 ALJ AGRANOFF: First, let me ask this
9 question: The monitoring locations that --

10 MR. STINSON: Your Honor, I'm having a
11 difficult time hearing you.

12 ALJ AGRANOFF: I'm sorry. Unfortunately,
13 this is not working.

14 The monitoring locations that were
15 relevant to this Case 17-2295, compared to the
16 monitoring locations that were utilized in
17 Case 19-1066, do we know whether or not any of those
18 monitoring locations were the same?

19 MR. VAN KLEY: I do know. They are not
20 the same. There are three monitoring locations in
21 Exhibit LR 12 and they are all different than the
22 monitoring locations provided in the Application for
23 this case, and they are all to the west of the
24 westernmost monitoring station submitted as part of
25 this Application.

1 In other words, they cover the area, the
2 western area of the project area that Republic Wind
3 did not submit any background-sound information for
4 in this Application. So it fills a gap in the
5 Application because it's concerning the sound levels
6 in the project area that was left open by this
7 Application.

8 MR. PARRAM: Your Honor, can I respond
9 now to allegations of Mr. Van Kley with respect to
10 Republic Wind not providing or not being responsive
11 to discovery requests?

12 ALJ AGRANOFF: Yes.

13 MR. PARRAM: If you look at the
14 objections to these incredibly overboard, undefined,
15 very unspecific requests of Mr. Van Kley, we
16 specifically indicate that it was objectionable and
17 that we could not tell exactly what he was looking
18 for in the whole universe of documents with respect
19 to the Application or the project area or the time
20 frame; so, with that being said, we made our
21 objection.

22 Even after that, Mr. Van Kley failed to
23 specify what exactly he was looking for. Throughout
24 the process, he would indicate that he still wanted
25 every single document under the sun and then would

1 say would you please provide us some additional
2 documentation with respect to what your witness --
3 documents for your witnesses in preparation of their
4 testimony or in preparation of their reports.

5 We provided documentation with respect to
6 what RSG prepared in this case, their workpapers, all
7 documentation supporting the noise studies that are
8 at issue in this case.

9 So to the extent that Mr. Van Kley was
10 looking for noise studies in a completely separate
11 application, one, he never indicated that and, two,
12 because of his incredibly broad request, it was
13 unclear what he was looking for.

14 So, logically, we provided the
15 information of our noise expert and all his
16 underlying documents, documentation that was even not
17 included in the Application, to show here's what
18 studies we did for the Republic Wind project,
19 17-2295.

20 All of Mr. Van Kley's requests,
21 throughout, were ill-defined, undefined. It was
22 impossible to tell what he was requesting.

23 Even if he was specifically requesting
24 this document, it would still be objectionable
25 because the analysis and the studies that were

1 performed in this relate to a specific transmission
2 line.

3 The transmission line, yes, does have a
4 portion of it that is within the project area because
5 logically that's how the project works, you have the
6 overall wind farm and it also has a transmission line
7 that interacts with the project area, but to the
8 extent of the analysis that RSG went through and the
9 monitors that they decided to use within this
10 particular case is completely separate.

11 So to the extent that Mr. Van Kley never
12 asked for this document, which this case is public,
13 public information, he knew of this case, he just
14 didn't ask for it.

15 ALJ SANYAL: Mr. Parram, has this
16 document, Exhibit F, been on the public docket in
17 19-1066? It looks like the Application was filed
18 August 27. Was it a part of that package?

19 MR. PARRAM: Yes, this is part of the
20 Application.

21 ALJ AGRANOFF: When you say "the
22 Application," the --

23 MR. PARRAM: Exhibit LR 12 is part of the
24 public Application in Case No. 19-1066-EL-BTX.

25 ALJ SANYAL: This was available on the

1 docket, August 27, 2019?

2 MR. PARRAM: Yes.

3 MR. VAN KLEY: Your Honor, could I
4 respond to Mr. Parram?

5 ALJ SANYAL: Sure.

6 MR. VAN KLEY: I don't know how anybody,
7 with a straight face, could state that a request for
8 noise measurements in the project area is overbroad
9 or ambiguous. I mean that is about as specific as a
10 person can be.

11 MR. PARRAM: It's also irrelevant because
12 it's not related. You're talking about --

13 MR. VAN KLEY: Could I just --

14 MR. PARRAM: -- a noise impact assessment
15 from a different project.

16 ALJ AGRANOFF: Hold on. Okay. The
17 bottom line is this document is now in existence.
18 You have possession of it, so really what we're
19 bickering about is really of no significance. We're
20 at the point now where we're trying to determine are
21 we going to use this document.

22 MR. VAN KLEY: Yes, I agree.

23 ALJ AGRANOFF: It doesn't matter any
24 longer.

25 MR. VAN KLEY: I agree.

1 ALJ AGRANOFF: That's a moot point.

2 MR. VAN KLEY: I agree.

3 ALJ AGRANOFF: So let's just focus now on
4 the issue of what do you want to do with the document
5 and we'll figure out whether or not that's
6 appropriate. What do you want to do with the
7 document?

8 MR. VAN KLEY: I want to question
9 Mr. Carr about it.

10 ALJ AGRANOFF: And just so that I can
11 fully understand, is there at least an agreement that
12 the area, for which this noise assessment in LR 12
13 applied to, is within the project area in this case?

14 MR. PARRAM: Your Honor, it's my
15 understanding there's overlap, yes.

16 ALJ AGRANOFF: Complete overlap or is a
17 portion of the noise study in LR 12 outside of the
18 project area in this case?

19 MR. PARRAM: I don't know off the top of
20 my head, Your Honor. I can take a break to confirm
21 that.

22 MR. VAN KLEY: Your Honor, if I could
23 suggest perhaps the question should be: Are the
24 monitoring stations inside of both project areas as
25 opposed to this study because the study extrapolated

1 from the information -- the sound measurements in
2 those three locations to the entire project area.

3 So you could say that the study area for
4 the ambient sound study in the transmission case is
5 broader than where the measurements of sound were
6 actually collected, but we're only interested in the
7 measurements -- in the measurements of the sound that
8 were collected. We don't care what they concluded
9 concerning the right limit, for example, in the
10 transmission case. We just want to get into evidence
11 what the sound measurements were at those three
12 locations that are inside this project area.

13 ALJ AGRANOFF: So there were three
14 monitoring locations?

15 MR. VAN KLEY: Yes.

16 ALJ AGRANOFF: And how many monitoring
17 locations in total were there in this study?

18 MR. VAN KLEY: Three.

19 ALJ AGRANOFF: There were just three.

20 MR. VAN KLEY: Yes.

21 ALJ SANYAL: Can you confirm that?

22 MR. PARRAM: I'm sorry, I wasn't
23 listening.

24 ALJ SANYAL: So Mr. Van Kley indicated
25 that there's only three sound monitoring locations

1 that were utilized or part of this noise assessment
2 study; is that --

3 MR. PARRAM: For the transmission line
4 study?

5 ALJ SANYAL: Yes.

6 MR. PARRAM: I can take a break to
7 confirm that, Your Honor.

8 MR. VAN KLEY: You can find the answer
9 easily by looking at page 24 of Exhibit 12.

10 MR. PARRAM: Your Honor --

11 ALJ SANYAL: Give me one sec.

12 Okay. So this is what we're going to do
13 at this juncture with this exhibit. Mr. Parram and
14 Mr. Stinson, you're going to find out if the sound
15 monitoring locations in Exhibit F, in LR Exhibit 12,
16 are within the project area for our case for 17-2295.
17 Does that make sense?

18 MR. PARRAM: That does make sense, Your
19 Honor, but to the extent those monitors happen to be
20 within the project area of 17-2295, I'm still not
21 clearly understanding how an entire noise impact
22 assessment for a separate project necessarily tie
23 into this case.

24 ALJ SANYAL: I think what we need now is
25 to know, first, whether those are in the project area

1 or not. So is that something you can confirm for us
2 if we take a --

3 MR. PARRAM: We can take a --

4 ALJ SANYAL: -- short break, or we could
5 finish up with other questions that you may have for
6 Mr. Carr.

7 MR. VAN KLEY: I'd rather deal with it
8 now.

9 ALJ SANYAL: Okay.

10 ALJ AGRANOFF: Then the other question
11 I'd like to know are the dates that pertain to both
12 LR 12 as well as the dates for the noise study that
13 were -- that was submitted and performed for the
14 purposes of Case 17-2295.

15 MR. VAN KLEY: Yeah, the dates for the
16 background study that are included in the case that
17 we're hearing today, I believe were February 2016;
18 and the dates of the sound measurements that are in
19 LR Exhibit 12, according to page 13 of that document,
20 were performed from September 13 to 26, 2018.

21 ALJ AGRANOFF: September 13 --

22 MR. VAN KLEY: To 26, 2018.

23 ALJ SANYAL: And do you have the exact
24 February date for the sound monitoring study in this
25 case? I seem to have forgotten it.

1 MR. VAN KLEY: Yeah, I can find that.

2 MR. STINSON: Of course, Your Honor, we
3 would like to confirm those dates because we aren't
4 litigating the transmission line case in this
5 proceeding and we don't have the information with us.

6 MR. VAN KLEY: You're not litigating the
7 transmission line case?

8 MR. STINSON: In this proceeding.

9 MR. PARRAM: No, we're not.

10 MR. VAN KLEY: Actually your name is all
11 over it, Devin.

12 MR. PARRAM: What case are we here for
13 today, Mr. Van Kley?

14 ALJ SANYAL: Okay.

15 ALJ AGRANOFF: Okay. Gentlemen, that's
16 not what we want to know.

17 ALJ SANYAL: It's counterproductive.

18 We're going to take a short break while
19 you figure out the location of the three monitoring
20 stations in Case No. 19-1066-EL-BTX, okay? So let's
21 go off the record.

22 (Recess taken.)

23 ALJ SANYAL: Let's go back on the record.

24 Mr. Parram and Mr. Stinson, what have you
25 discovered?

1 MR. PARRAM: Your Honor, it's my
2 understanding, based on conversations with Mr. Carr
3 based on his general understanding, the three
4 monitoring locations at issue in LR Exhibit 12 are
5 within the project area of the Republic Wind
6 wind-generating-facility footprint. So that's what
7 you asked me to look into and that's what I found
8 out.

9 ALJ SANYAL: So, at this point, what
10 we're going to do is --

11 ALJ AGRANOFF: Can I get just one more
12 clarification? The dates we had speculated about,
13 have those been confirmed as well relative to both
14 this Exhibit LR 12 and the date of the noise study
15 that was performed for the purposes of this Case
16 17-2295?

17 MR. VAN KLEY: And, Your Honor, if it
18 helps, you requested me to find the specific dates of
19 the sound study in this case, and those specific
20 dates are February 3 through 18, 2016, and you'll
21 find that on page 5 of the noise report that is in
22 Company Exhibit 1E.

23 ALJ AGRANOFF: And does the Company
24 concur with the dates we just referenced?

25 MR. PARRAM: Could I have that reference

1 again in 1E?

2 MR. VAN KLEY: For which one, sir?

3 MR. PARRAM: You said --

4 MR. VAN KLEY: 1E?

5 MR. PARRAM: Yeah.

6 MR. VAN KLEY: That would be page 5 of
7 the noise report that's in Company Exhibit 1E.

8 MR. PARRAM: You indicated February 18,
9 2016?

10 MR. VAN KLEY: February 3 through 18.

11 MR. PARRAM: 3 through 18.

12 MR. VAN KLEY: 2016.

13 MR. PARRAM: That appears to be correct,
14 Your Honor.

15 ALJ SANYAL: Okay. So, at this point,
16 what we're going to do is we're going to allow
17 Mr. Van Kley to cross Mr. Carr about the three -- the
18 raw data derived from the three monitoring stations
19 only, and then we'll rule on the admissibility of
20 this exhibit if and when we come to it, and then
21 we'll entertain objections if Mr. Van Kley goes
22 beyond the scope of what I've just instructed. Does
23 that make sense?

24 MR. PARRAM: That makes sense, Your
25 Honor.

1 ALJ AGRANOFF: We won't be going into any
2 conclusions of what that data means; we will just let
3 him ask questions about the raw data itself.

4 MR. STINSON: About the what?

5 ALJ SANYAL: The raw data itself that
6 were derived from the three monitoring locations.

7 Any questions?

8 MR. STINSON: I'll raise it through
9 objection, Your Honor.

10 ALJ SANYAL: Sure.

11 Mr. Van Kley, you may proceed

12 MR. VAN KLEY: All right. Thank you,
13 Your Honor.

14 Q. (By Mr. Van Kley) Mr. Carr, going back to
15 LR Exhibit No. 12. I believe we had a discussion
16 with the Bench and counsel for Republic about whether
17 the monitoring stations, referenced in this exhibit,
18 are within the boundaries of the project area for the
19 Republic Wind project that is being considered in the
20 case that we're in the hearing for. Do you concur
21 that those three monitoring stations are within that
22 project area?

23 MR. STINSON: I'm going to object at this
24 point, Your Honor, just on the basis of foundation.
25 I think we need a foundation before we get any

1 further in this document and Mr. Dalton's familiarity
2 with it and in what capacity.

3 ALJ SANYAL: I agree.

4 MR. VAN KLEY: Okay. All right.

5 Q. (By Mr. Van Kley) Mr. Carr, you indicated
6 that you're the Project Manager -- you're the Project
7 Manager for the Republic Wind transmission
8 project; is that correct?

9 A. Yes, that's correct.

10 Q. Okay. And I think you also indicated
11 that one of your responsibilities as the Project
12 Manager for this project is to perform oversight on
13 the consultants that provide you the information that
14 you used in the Application, correct?

15 MR. STINSON: Objection as to form and
16 which application and which case are we talking
17 about.

18 ALJ SANYAL: Can you please clarify,
19 Mr. Van Kley?

20 MR. VAN KLEY: Yeah.

21 Q. (By Mr. Van Kley) Mr. Carr, you've
22 indicated that one of your responsibilities as the
23 Project Manager for the Republic Wind transmission
24 case is to oversee the consultants who provided
25 information used in the Application for the Republic

1 Wind transmission project, correct?

2 A. To clarify, as project management -- or
3 as Project Manager for the transmission line case as
4 well, I'm tasked with ensuring that the consultant
5 reports that are performed are done in a timely
6 manner and they are submitted in accordance with OPSB
7 rules.

8 Q. All right. And did you perform that
9 function for the report that is in LR Exhibit 12?

10 A. Yes.

11 Q. Okay. And the contractor that did the
12 noise report, that is marked as Exhibit 12, is RSG,
13 correct?

14 A. That's correct.

15 Q. And RSG provided a copy of this report to
16 you; is that correct?

17 A. That's correct.

18 Q. And then you submitted this report as
19 part of the Application in the Republic Wind
20 transmission case; is that correct?

21 A. This report was submitted in
22 collaboration with both our counsel at Bricker &
23 Eckler and our consultant, EDR.

24 Q. But it was submitted on behalf of
25 Republic Wind, correct?

1 A. Yes, submitted on behalf of the Republic
2 Wind transmission line project.

3 Q. Is Republic Wind, LLC the owner of that
4 project?

5 A. To my knowledge I would imagine so. I'd
6 refer to the Application itself.

7 Q. Have you at any time, including today,
8 reviewed the document that has been marked as
9 LR Exhibit 12?

10 A. I'm generally aware of this document. I
11 looked through it briefly.

12 Q. Have you reviewed any part of it?

13 A. Again, I've picked through it briefly. I
14 wouldn't say that I've reviewed or studied this
15 document.

16 Q. You're familiar with the area that's
17 included in the project area for the case that we're
18 in the hearing for today, correct?

19 A. I'm familiar with the project area of the
20 Republic Wind project, yes.

21 Q. And you're also familiar with the project
22 area that is being proposed in the Republic Wind
23 transmission case?

24 A. Yes, I'm familiar with both project
25 areas.

1 Q. And based on information in the -- in
2 LR Exhibit 12, you're aware that RSG performed some
3 sound measurements that are included in Exhibit 12,
4 correct?

5 A. Yes.

6 Q. And based on your review of Exhibit 12,
7 you have identified the locations of the monitoring
8 stations that were used for that purpose?

9 A. Can you point me to that reference in the
10 document?

11 Q. Sure. There are a number of places that
12 you can refer to.

13 A. If you can find one that's indicative of
14 all of the locations, that would be helpful.

15 Q. Okay. You can go to page 7 of
16 LR Exhibit 12, and I would refer you to Figure 12 --
17 Figure 2.

18 ALJ SANYAL: One more time. Page?

19 MR. VAN KLEY: Page 7.

20 ALJ SANYAL: Page 7.

21 MR. VAN KLEY: Figure 2.

22 ALJ SANYAL: Thank you.

23 A. Okay.

24 Q. It shows there were three monitors for
25 sound measurements, correct?

1 A. If this figure is, in fact, inclusive of
2 all sound monitoring locations, then I would agree.

3 Q. I'm sorry, I didn't understand your
4 answer.

5 A. You seem to be asking whether I can
6 confirm that all locations are pictured here. Again,
7 I'm generally familiar with this study. If you can
8 point me to where in this study, as well, we
9 reference three total locations that would be
10 helpful.

11 Q. Okay. Sure.

12 Okay. Go to the prior page, page 6.
13 Under the heading of 3.1, "Location Descriptions,"
14 the first sentence reads "Background sound level
15 monitoring was performed at three locations near the
16 proposed transmission line routes." Do you see that
17 sentence?

18 A. Yes.

19 Q. Okay. Now going back to No. 7, page 7.

20 MR. STINSON: I'm going to object.
21 There's really no foundation as to Mr. Carr's
22 familiarity with how the study was conducted here.
23 He's being asked to read from a study and assume what
24 is in the study is -- was in his knowledge at the
25 time this project or this study was performed.

1 MR. VAN KLEY: Well, Your Honor, I'm
2 trying to do exactly what counsel requested I do
3 which is provide a basis for Mr. Carr's knowledge
4 concerning the fact that, as admitted by counsel, the
5 monitoring stations are located within the project
6 area for the case that we're here in today. That's
7 basically my intent. I'm leading him to, at his
8 request, showing him where those monitoring locations
9 are stated to be in this document so that he can
10 ultimately answer that question about whether the
11 monitors are located in the project area for this
12 case.

13 ALJ SANYAL: Your objection is overruled.
14 Let's see where Mr. Van Kley goes. Let's -- go
15 ahead, Mr. Van Kley.

16 MR. VAN KLEY: Okay. Thank you.

17 Q. (By Mr. Van Kley) All right. So,
18 Mr. Carr, if you look at pages 7 through 11 or 12, do
19 you see that those pages confirm there are three
20 monitoring stations that were the subject of this
21 report?

22 A. Generally speaking, this page range
23 appears to depict in it and describe those three
24 monitoring locations that appeared on page 7.

25 Q. Okay. And those monitor locations on

1 page 7 are labeled as West Monitor, Middle Monitor,
2 and East Monitor, correct?

3 A. That's correct.

4 Q. Okay. And based on the map that we see
5 in Figure 2 on page 7, that figure shows those three
6 monitors are located within the Republic Wind project
7 area for the case that we're in the hearing for
8 today, correct?

9 A. Given the information at my fingertips,
10 these monitoring locations do appear to fall within
11 the general project boundary for Republic Wind.

12 Q. Okay. All right. Now, I would like you
13 to go to page 24 of Exhibit 12. I'd like to refer
14 you to Table 1 which is labeled "Background Sound
15 Level Summary by Location." And you will see there
16 that the data for the nighttime Leq for the Middle
17 Monitor is 35 Leq, correct?

18 A. You're asking for the nighttime Leq
19 figure for the Middle Monitor?

20 Q. Correct.

21 A. This appears to be 35.

22 Q. All right. And the data for the
23 nighttime Leq for the East Monitor is 37 Leq,
24 correct?

25 A. That's what's stated here.

1 Q. Okay. And the data for the --

2 MR. STINSON: Your Honor, I'm going to
3 object because we're reading into the record
4 something that's ultimately going to be determined
5 whether it's relevant or not.

6 ALJ SANYAL: I'm sorry, one more time.

7 MR. STINSON: The issue still remains
8 whether this document will be admitted into the
9 record and we're reading it into the record so it's
10 going to be on the record as it is. Would you
11 entertain a motion to strike after we go through
12 this?

13 ALJ SANYAL: Yes, we would.

14 MR. VAN KLEY: Okay.

15 Q. (By Mr. Van Kley) And going back to my
16 question then, the data for the nighttime Leq for the
17 West Monitor is 37 dBA Leq, correct?

18 A. That's what this table reads, yes.

19 Q. And for all three of these readings for
20 the three monitors, the Leq data is provided in
21 dBA; is that right?

22 A. Judging by the first row of this table,
23 "Sound Pressure Level (dBA)," that appears to be the
24 unit of measurement in this table.

25 Q. Okay. All right. You can set that

1 aside.

2 Are you aware of any gas pumping
3 stations, natural gas pumping stations that are
4 located within 1,400 feet of the project area?

5 MR. STINSON: I'm going to ask
6 Mr. Van Kley if he can use his microphone. I'm
7 having difficulty hearing down here.

8 ALJ SANYAL: Before you answer.

9 Mr. Van Kley, are we done with
10 LR Exhibit 12 at the moment or will you be utilizing
11 this again?

12 MR. VAN KLEY: No, we're finished.

13 ALJ SANYAL: Okay. And is there
14 somewhere in Mr. Carr's testimony we should be
15 focusing on or is this a general question?

16 MR. VAN KLEY: It's a general question.
17 I transitioned abruptly to a new topic.

18 ALJ SANYAL: Thank you.

19 MR. VAN KLEY: All right. Let me re-ask
20 the question.

21 ALJ SANYAL: Can you hear him now?

22 MR. STINSON: Better.

23 ALJ SANYAL: Okay.

24 Q. (By Mr. Van Kley) Mr. Carr, are you aware
25 of any gas pumping stations located within 1,400 feet

1 of the edge of the project area?

2 A. For clarity, what are you defining as the
3 project area?

4 Q. The same -- I'm referring to it in the
5 same way we've been referring to it throughout this
6 hearing which is the project area for the Republic
7 Wind project that is shown within the blue lines of
8 the maps in the Application.

9 A. The project boundary itself.

10 MR. STINSON: Clarification. Are we back
11 to this case?

12 MR. VAN KLEY: Yes, yes, absolutely.

13 ALJ SANYAL: That was my earlier
14 question.

15 MR. STINSON: Back to 17-2295. Well, he
16 said general questions, so I don't know whether it's
17 for the case not before us or 17-2295.

18 MR. VAN KLEY: All of my questions, from
19 here on out, will be about this case we're hearing
20 today.

21 THE WITNESS: Would you mind re-asking
22 the question?

23 MR. VAN KLEY: I'd be happy to.

24 Q. (By Mr. Van Kley) Are you aware of any
25 natural gas pumping stations located within

1 1,400 feet of the boundary of the project area?

2 A. I don't have an answer offhand for that.
3 If one exists, it is mapped and modeled.

4 Q. It's what again?

5 A. It is modeled in our application.

6 Q. Well, I'm referring to -- I'm asking you
7 about whether there are any natural gas pumping
8 stations owned by persons other than Republic Wind
9 that may be located within 1,400 feet of the project
10 area.

11 A. I'm confused by the distinction. So
12 Republic Wind does not own a natural gas pumping
13 station within the project area. You're asking
14 whether we're aware of someone else who owns a
15 pumping station within the project area?

16 Q. Yes, I'm asking you whether you're aware
17 of whether anybody else owns a natural gas pumping
18 station that is within 1,400 feet outside of the
19 boundary of the project area.

20 A. I don't have an answer for you, I'm
21 sorry.

22 Q. Let's talk about shadow flicker for a
23 little while. Do you know what shadow flicker is?

24 A. Generally speaking, yes.

25 Q. Okay. Would you describe your

1 understanding of what it is?

2 A. Shadow flicker would be known to occur
3 from the reference point of a home where the sun is
4 directly behind either the turbine tower or the
5 blades, such that the turning of the blades casts a
6 shadow over that home for some given period of time.

7 Q. Do you know why it's called a flicker?

8 A. Perhaps you can define that for me.

9 Q. Well, I was asking whether you know how
10 that term is used in the words "shadow flicker." Do
11 you know?

12 A. It appears to be a reference to the
13 blades turning.

14 Q. And the blades turning, with the sun
15 behind them, creates a flickering light or a
16 flickering shadow, right?

17 A. I wouldn't say that light is created by
18 the turbine. I would say that a shadow is cast by
19 the turbine.

20 Q. Fair enough. So by turning in front of
21 the sun, the blades of the wind turbine cause
22 alternating shadows and sunlight to be cast on areas
23 behind it; is that correct?

24 A. Where otherwise sunlight directly would
25 be cast on a home, you would have an alternation

1 between the shadow and the sunlight.

2 Q. Yes, okay. How long does each shadow
3 last in shadow flicker?

4 A. I don't have that figure offhand.

5 Q. Is it true that shadow flicker, resulting
6 from turbine operation, can go through windows of
7 homes in the area?

8 A. I would imagine that if you have a
9 transparent window and a turbine is in between that
10 window and the sun, that shadow flicker resulting
11 from that turbine would in fact penetrate that
12 window.

13 Q. By the way, do you know how fast the
14 turbine blades turn for the turbine models that
15 you've chosen for this project?

16 A. I don't have that figure memorized.

17 Q. Is it more than 100 miles per hour to
18 your knowledge?

19 A. I wouldn't like to speculate.

20 Q. And if -- if people in a neighboring home
21 are close enough to a turbine during the time that
22 the sun is setting behind the turbine, then that can
23 create flickering shadows on that neighbor?

24 A. Potentially.

25 Q. Have you ever lived on a property

1 affected by wind turbine shadow flicker?

2 A. No.

3 Q. Have you ever lived close to a wind
4 turbine, let's say within 1,600 feet of a wind
5 turbine?

6 A. Individual-ownership wind turbines,
7 certainly. I don't imagine you're asking about
8 individual ownership.

9 Q. Do you own wind turbines yourself?

10 A. No.

11 Q. Okay. Have you ever lived within
12 1,600 feet of a wind turbine yourself?

13 A. Certainly.

14 Q. You have? Okay. Where -- where is that
15 located?

16 A. So both in the towns of Charlottesville
17 and in the town of Durant, Oklahoma, where I've
18 lived, I've been near and around wind turbines that
19 are owned on a personal level by neighbors or
20 neighbors of neighbors. I'm not sure what distance
21 that would be. You seem to be referencing
22 1,400 feet?

23 Q. 1,600 feet.

24 A. 1,600 feet. I don't know. I've never
25 measured.

1 Q. So you don't know whether you have lived
2 within 1,600 feet of a turbine?

3 A. I cannot say absolutely whether a turbine
4 was within that range.

5 Q. All right. Do you know how many homes of
6 nonparticipating landowners will be exposed to shadow
7 flicker from the turbines in the Republic Wind
8 project?

9 A. I don't have that figure memorized. I
10 would refer to the Application.

11 Q. Is shadow flicker more prevalent during
12 some times of the year than other times of the year?

13 A. I'm not sure.

14 Q. For this project, how many times has
15 Republic Wind had a consultant model the project for
16 shadow flicker?

17 A. Shadow flicker modeling has been
18 performed in preparation for the submittal of the
19 Application. This modeling would have been performed
20 both with the February 2018 filing, prior to.
21 Additionally, this modeling would have been done
22 prior to the December 2018 filing. This modeling
23 would have been updated with any sort of change to
24 turbines that impacted the shadow flicker as well.

25 Q. And was another model performed prior to

1 the Company's submission of its supplement to the
2 Application in June 2019?

3 A. I don't recall offhand. The studies that
4 were performed for that supplement were those that
5 reflected impacts resulting from those changes.

6 Q. Okay. Do you have Company Exhibit 1E in
7 front of you? If not, would you obtain it.

8 A. I believe I have Exhibit 1E.

9 Q. All right. So was a shadow flicker
10 analysis performed for a third time for the purposes
11 of submitting the information in Company Exhibit 1E?

12 A. It appears that in this modification that
13 you're referencing, "The shadow flicker report that
14 was prepared for the December 2018 Application
15 submittal was updated to reflect the new, smaller
16 V136 turbine model."

17 Q. Now, does this information, updating the
18 shadow flicker for this turbine model, replace the
19 shadow flicker study submitted with the December 26,
20 2018 Amended Application or does it supplement it?

21 A. As stated in this, in the very same quote
22 I read out, it was updated.

23 Q. Okay. And I need to figure out what
24 "updated" means. Does that mean that Republic Wind
25 is still relying on the information in the shadow

1 flicker report that was submitted with its Amended
2 Application on December 26, 2018?

3 A. Given those turbine models proposed in
4 that filing are still under consideration for this
5 project, we are still, in part, relying on that
6 study. The V136 was not included with those turbines
7 in the December 26 and 27 filing, so this shadow
8 flicker update had to occur to ensure that we
9 reflected the updates of this new proposed turbine
10 model.

11 Q. So only this turbine model, which is the
12 Vestas 136, was modeled in the shadow flicker report
13 that's included in Company Exhibit 1E; is that
14 correct?

15 A. In light of the summary, I would agree
16 with that.

17 Q. But Republic Wind does not intend to
18 install the Vestas 136 model at all of its turbine
19 locations, right?

20 A. Referenced in this very same document, if
21 you can turn back one page to the cover sheet
22 essentially. This is the second paragraph in, "The
23 use of the V136 will be limited to no more than 10
24 locations."

25 Q. And you're on the second page of Company

1 Exhibit 1E, correct?

2 A. This appears to be the first page of
3 Exhibit 1E.

4 Q. Okay. Yeah, I see that my copy, taken
5 off of the website has a cover letter attached to it
6 so that may account for the difference. The page
7 you're looking at has a number 1 at the bottom and at
8 the top it's entitled "Notice of Project
9 Modifications and Information Update, correct?

10 A. I don't see "1" at the bottom; however, I
11 do see bolded text that says "RE: Republic Wind LLC
12 Case No. 17-2295-EL-BGN, Notice of Project
13 Modifications."

14 ALJ SANYAL: Mr. Carr, if you flip to the
15 next page, I think he's referring to the next page.

16 A. Okay. So this would be essentially the
17 second page of this document but page No. 1; is that
18 right?

19 Q. Okay. Yeah, I just want to make sure the
20 record is clear as to what page you're reading from.

21 A. I could read it once more now that we
22 have an understanding.

23 Q. Why don't you tell me what the title, if
24 anything, to that page is.

25 A. Sure. You'd like that now?

1 Q. Yeah, just tell me what the title of that
2 page is so we can later identify it from the exhibits
3 in the case.

4 A. The page I had quoted, what I just read,
5 lists the date at the top. It has a signature for
6 Bricker & Eckler, and includes the addressee,
7 Ms. Tanowa Troupe, Administration/Docketing of the
8 Ohio Power Siting Board.

9 Q. And is that the page from which you read
10 the sentence that states the applicant is also at --
11 I'm sorry, the use of the V136 will be limited to no
12 more than 10 locations within the project?

13 A. That's correct.

14 Q. Okay. Now, on page 2 of the document, it
15 should be the page right after the one that you just
16 read from, I hope.

17 A. For clarification, Mr. Van Kley, it
18 should be the page with the number 1 appearing at the
19 bottom?

20 Q. On my copy, the number 2 appears on the
21 bottom, but it may be different from what you're
22 reading.

23 ALJ SANYAL: I think he wants you to look
24 at the page with the footnote No. 2.

25 MR. STINSON: I would suggest, why don't

1 we have each party compare to make sure we know what
2 we're looking at.

3 ALJ SANYAL: I agree. Mr. Van Kley, if
4 you can just come and show Mr. Carr what page we're
5 looking at because we've now spent 5 minutes figuring
6 out what page we're on.

7 ALJ AGRANOFF: Can you also confirm the
8 versions you're utilizing are the same.

9 ALJ SANYAL: I think you're using the
10 same version, you're just counting one page versus
11 not.

12 Q. (By Mr. Van Kley) Referring you to the
13 top of page 2 of this document, I'd like to refer you
14 to the first full sentence on that page where it says
15 the updated analysis predicted that 39 receptors
16 would receive over 30 hours of shadow flicker per
17 year, which is a reduction from 77 receptors
18 predicted to receive over 30 hours per year in the
19 2008 analysis. EDR, 2018. Do you see that sentence?

20 A. To clarify, you just read "30 hours per
21 year in the 2008 analysis." This was the 2018
22 analysis.

23 Q. Yeah, I should have read 2018.

24 A. I see that, yes.

25 Q. Okay. So this conclusion that the

1 updated analysis predicted that 39 receptors would
2 receive over 30 hours of shadow flicker per year
3 instead of 77, is based on a model that assumed that
4 all of the turbine locations were using the Vestas
5 136, correct?

6 MR. STINSON: Can I have that reread,
7 Your Honor.

8 ALJ SANYAL: Sure.

9 (Record read.)

10 THE WITNESS: Thank you.

11 A. It is my general understanding that this
12 figure listed here in the statement you've just read
13 is a result of modeling the V136 at all locations
14 and, to my general knowledge, that simplified the
15 work to be done such that those 10 locations did not
16 need to be selected at this point.

17 Additionally, given once we have a final
18 design on the selected turbine or turbines, as quoted
19 here, the Applicant will conduct a final
20 preconstruction shadow flicker analysis for
21 compliance filing.

22 ALJ AGRANOFF: If I could ask one
23 clarifying question. Each time that you needed to do
24 an updated noise study, do you typically then have a
25 corresponding updated shadow flicker analysis done as

1 well?

2 THE WITNESS: My general understanding is
3 that updates would be dependent on what changed and
4 so if the sound propagation of a certain turbine
5 model was different with an update, then that
6 modeling would be updated. In the case, for example,
7 of the updates to the V150 and the Nordex N149, that
8 was not the case for shadow flicker, no change to
9 that report.

10 ALJ AGRANOFF: But how do you know that
11 upfront without first doing an analysis to see
12 whether or not there would be a need to update the
13 shadow flicker?

14 THE WITNESS: So this is given that the
15 information from the manufacturer did not change.
16 While the technology -- this is again my general
17 understanding, while the technology inside the
18 generator or the computer system in the generator
19 might be slightly different and that the power output
20 difference may result in a sound output differences,
21 the same is not true for the rotation of the blades
22 or for shadow flicker analysis. We would essentially
23 be working from the manufacturer. That's my general
24 knowledge.

25 ALJ AGRANOFF: Thank you.

1 Q. (By Mr. Van Kley) Turn back to page 1 of
2 Company Exhibit 1E. And I would refer you to Table 1
3 where you see a title of "Approximate Turbine
4 Dimensions by Model." Do you see that?

5 A. Yes.

6 Q. Okay. And there are three turbine models
7 listed there, correct?

8 A. Yes.

9 Q. And these are three models of turbine
10 that are also being considered for the project,
11 correct?

12 A. This is correct. As stated in the
13 previous or preceding paragraph, "Turbine models and
14 dimensions under consideration for the Project at the
15 time of the Certificate Application amendment are
16 listed below in Table 1."

17 Q. And these three turbine models were
18 modeled for shadow flicker in the report that was
19 included in the Amended Application of December 26,
20 2018, correct?

21 A. Yes. These specific turbine models had
22 not appeared previously in the Application.

23 Q. Now, when -- let me ask you this. Are
24 there characteristics of a turbine model that affect
25 how much shadow flicker it casts?

1 A. Generally speaking, I would imagine hub
2 height and blade length would be impacts there.

3 Q. Is blade length also referred to as rotor
4 diameter?

5 A. Yes. That would be the combined length
6 of both blades and the diameter of the hub.

7 Q. So I see that the maximum height of the
8 Nordex N149 is 602 feet according to Table 1,
9 correct?

10 A. Yes.

11 Q. And its rotor diameter is 489 feet,
12 correct?

13 A. That's correct.

14 Q. And then if you look at the data for the
15 Vestas V150 model, you'll see that the total height
16 is 591 feet and the rotor diameter is 492 feet,
17 correct?

18 A. That's correct.

19 Q. So of the three models in Table 1, the
20 Nordex N149 is the tallest model at 602 feet,
21 correct?

22 A. That's correct.

23 Q. But the Vestas V150 model has the widest
24 rotor diameter at 492 feet, correct?

25 A. That's correct.

1 Q. Okay. So if both rotor diameter and
2 height affect the amount of shadow flicker, but one
3 turbine is taller than the other and the opposite
4 turbine is broader in its rotor diameter than the
5 other, then can you tell, based on this information,
6 which one would cast the most shadow flicker?

7 A. It's my general understanding the shadow
8 flicker was prepared to reflect a worst-case
9 scenario. Now, whether it was the consultant's
10 expertise or at the direction from subject-matter
11 experts at Apex to include the maximum rotor diameter
12 in addition to the maximum total height as sort of a
13 combination to assess, or if the assessed greatest
14 impact turbine was used, I don't recall. However,
15 it's my general understanding that the worst-case
16 scenario was used in this modeling.

17 Q. Would you go to Exhibit I of the Amended
18 Application of December 26, 2018, and keep Company
19 Exhibit 1E available as well while we're looking at
20 Exhibit I.

21 A. Mr. Van Kley, if you can give me the date
22 of the study you're referencing in Exhibit I.

23 Q. December 2018. As I said, it's included
24 in the Exhibit I in the Amended Application of
25 December 26, 2018.

1 MR. VAN KLEY: While you're up there, you
2 should also pull out the Amended Application
3 narrative. I'll be asking questions about that in a
4 little bit. Unredacted or the clean version.

5 THE WITNESS: Mr. Van Kley, if you can
6 give me some of the details of the cover sheet of the
7 exhibit you're referencing here.

8 MR. VAN KLEY: Yeah. If it's okay with
9 the Bench, I'll just show you. Can I show him this
10 exhibit we're looking for?

11 ALJ SANYAL: Sure.

12 Okay. So before we proceed, the court
13 reporter has indicated that we just need to do a
14 better job of identifying what documents we're
15 referring to for the record because she does have to
16 go find them if we're not clear enough, so for
17 purposes of this, can you let us know what you're
18 looking at and the date, the exact date, not just
19 December 2018, the exact date from the docket, I
20 think that would be helpful.

21 ALJ AGRANOFF: And to the extent you can
22 tie it to a specific exhibit that's in the record.

23 MR. VAN KLEY: Yeah. The document that
24 we're going to be looking at here is labeled as
25 Exhibit I, Shadow Flicker Report, it's from the

1 Amended Application of December 26, 2018.

2 ALJ AGRANOFF: Which has been marked as
3 Applicant Exhibit number?

4 MR. VAN KLEY: Don't know. 1C perhaps.

5 ALJ SANYAL: I think it's 1C.

6 MR. VAN KLEY: The report in Exhibit I
7 has a date of December 2018 on it. It does not say
8 what the day of December is.

9 ALJ SANYAL: But it was filed on the
10 docket December 26, 2018.

11 MR. VAN KLEY: Yes.

12 Okay. So does everybody have this
13 document? I can proceed? I think the witness does.

14 MR. PARRAM: One more second.

15 THE WITNESS: Okay.

16 Q. (By Mr. Van Kley) All right. You have
17 Exhibit I in front of you. Look at page 1. Is it
18 not the first page of Exhibit I, but the page that
19 has the number 1 at the bottom, and on top it starts
20 with 1.0 Project Overview. Do you have that page?

21 A. Yes.

22 Q. Okay. Now --

23 ALJ AGRANOFF: Just to clarify, that's
24 Exhibit 1-I, correct?

25 MR. VAN KLEY: I believe.

1 ALJ AGRANOFF: Okay.

2 Q. (By Mr. Van Kley) All right. So looking
3 at the second paragraph on this page, do you see that
4 it says that the proposed wind turbine for this
5 project is the Vestas 150?

6 A. I see it footnoted at the end of that
7 sentence to qualify that statement. Footnote 2 down
8 at the bottom, which is referenced at the end of that
9 sentence, quote, There are three turbine models under
10 consideration for the Project: The 4.2-megawatt
11 Vesta V150, the 4.5-megawatt Seimens Gamesa, Seimens
12 SG145, and the 4.5 Nordex N149. Of these, the V150
13 has the largest rotor diameter, making it the
14 appropriate model to use for this analysis.

15 Q. Yeah. So the shadow flicker analysis in
16 Exhibit I was performed only on the Vestas V150,
17 correct?

18 A. For the reasoning just outlined, that's
19 correct.

20 Q. Okay. But going back to page 1 of
21 Company Exhibit 1E, Table 1 states --

22 A. Give me just one minute.

23 Q. Sure.

24 A. Okay.

25 Q. Table 1 states that the Nordex N149 is

1 taller than the Vestas V150, correct?

2 A. Yes. And so the reason I had answered
3 with a general understanding is that I would defer to
4 this report itself which does state or seem to state
5 that the rotor diameter of the V150 would be the
6 largest impact as far as those things considered in
7 determining which model to -- which turbine model to
8 reference in this shadow flicker model.

9 Q. Are you aware of any rationale for that
10 assumption?

11 A. I'm generally aware of the study. I
12 would defer to the language in this study to describe
13 the rationale.

14 Q. Well, do you know why the Vestas 150 or
15 V150 was considered to be the worst-case scenario
16 instead of the Nordex N149 that is taller?

17 A. As I stated previously, quoting footnote
18 2 on this, on page 1 of Exhibit I, is that what we're
19 referencing for the sound report -- sorry, for the
20 shadow flicker report, the V150 has the largest rotor
21 diameter and that appears to be why it was selected.

22 Q. While we're still in Company Exhibit 1E,
23 would you go to Figure 1 and Figure 2 of that
24 document, and I don't think there are numbered pages.

25 ALJ SANYAL: I'm sorry, which figures?

1 MR. VAN KLEY: Figures 1 and 2 of the
2 shadow flicker analysis in Company Exhibit 1E.

3 Q. So you'll find it right after page 7 of
4 the shadow flicker report. The next page is a
5 nameplate for figures and then there's Figure 1 after
6 that. We'll just start with Figure 1.

7 A. Okay.

8 Q. All right. Now, keep your finger there
9 and go back to Exhibit I from the Application of
10 December 26, 2018, and find Figure 2 of that document
11 which again is right after the text, the last page of
12 the text that is on page 17 and you'll see a
13 nameplate for figures and then go to Figure 2. You
14 tell me when you find the figures.

15 A. I believe I've got those.

16 Q. Okay. So with regard to Company
17 Exhibit 1E, Figure 1, that figure shows the layout of
18 the turbines that were modeled for shadow flicker in
19 the study that was done for the purposes of the
20 June 28, 2019 submittal to the Board, correct?

21 A. I'm sorry, I'm getting crossed up.
22 Which -- because we've got two open here. Which one
23 are you referring to?

24 Q. Company Exhibit 1E which is the
25 Supplemental Application and that's dated June 28,

1 2019.

2 A. Okay.

3 Q. All right. So Figure 1 shows the layout
4 of the turbines as they were modeled for shadow
5 flicker in this study, correct?

6 A. Yes, I believe so.

7 Q. Okay. Go to Figure 2 of the same
8 document. That also shows the turbine locations with
9 shadows shown for each of the locations?

10 A. Okay.

11 Q. All right. Now keep your finger there on
12 those two figures, go back to Exhibit I of the
13 Application of December 26, 2018, referring you to
14 Figure 1. That is the layout of the turbines that
15 were modeled in the shadow flicker study submitted to
16 the Board on December 26, 2018.

17 A. Yes.

18 Q. And then go to Figure 2 -- or Figure 3 of
19 that report, that's another figure showing the
20 locations of those turbines.

21 A. Okay.

22 Q. Okay. So let's compare Figure 1 of
23 these -- Figure 1 of Company Exhibit 1E with Figure 2
24 of Exhibit I to the Amended Application of
25 December 26, 2018. Putting them side-by-side.

1 A. Mr. Van Kley, are we comparing the same
2 figure in each exhibit or different figures in each
3 exhibit?

4 Q. For Company Exhibit 1E, it would be
5 Figure 1.

6 A. Okay.

7 Q. For Company Exhibit -- yeah, for
8 Exhibit I to the December 26, 2018 Application, we're
9 looking at Figure 2.

10 A. Okay.

11 Q. Both of those figures provide the
12 proposed layout for the turbine project, right?

13 A. That's what's stated in the margins.

14 Q. But the turbine locations on these two
15 figures are different in some respect; isn't that
16 true?

17 A. The figure representing the supplement
18 that would include the V136 model, this would be in
19 Exhibit E, appears to be slightly different than the
20 existing and current turbine layout as proposed.

21 Q. Well, let's go on to compare Figure 2 of
22 Company Exhibit 1E to Figure 3 of Exhibit I of the
23 December 26, 2018 Application. Those two figures
24 compared to each other also show that there are some
25 differences in the turbine layout; is that right?

1 ALJ SANYAL: Can you give me the numbers
2 again, Mr. Van Kley?

3 MR. VAN KLEY: Yes. We are comparing
4 Figure 2 of Company Exhibit 1E.

5 ALJ SANYAL: Which is the June 28 --

6 MR. VAN KLEY: That is the June 28, 2019
7 submittal.

8 ALJ SANYAL: Okay. And you're looking at
9 specifically the figure that's in the noise impact
10 assessment?

11 MR. VAN KLEY: No. We're looking at the
12 shadow flicker assessment. So it would be towards
13 the front of the document about, I don't know, maybe
14 15 pages or so in. You'll see that the shadow
15 flicker report has seven pages in it, followed by a
16 "Figures" title and then you see the figures after
17 that.

18 ALJ SANYAL: Okay. I'm there.

19 MR. VAN KLEY: Okay. So we started with
20 Figure 1 of this document and we compared it to
21 Figure 2 of Exhibit I of the Application dated
22 December 26, 2018. And now we've moved on to the
23 next page in both documents and we're now comparing
24 Figure 2 of Company Exhibit 1E, dated June 28, 2019,
25 with Figure 3 of Exhibit I of the Amended Application

1 of December 26, 2018.

2 ALJ AGRANOFF: Which is Applicant Exhibit
3 1C.

4 MR. VAN KLEY: Yes.

5 Q. (By Mr. Van Kley) Okay. So, Mr. Carr, my
6 question is whether the turbine layouts in these two
7 figures are different.

8 A. In Exhibit E, Figure 2 of the June 2019
9 modification, that is reflective of the V136
10 inclusion in shadow flicker modeling. The layout
11 depicted here doesn't appear to be current when
12 compared to Figure 3 of Exhibit I of the December
13 2018 filing which reflects the current project
14 layout.

15 Q. So if I'm understanding you correctly
16 then, the turbine layout that's in Figure 3 of
17 Company Exhibit 1E, dated June 28, 2019, is not the
18 current layout for the turbines proposed for this
19 project?

20 A. Specifically for these figures which are
21 modeling the V136 in Exhibit E of this June 2019
22 filing, I believe that is correct.

23 Q. And the same would be correct with regard
24 to Figure 1 of Company Exhibit 1E, dated June 28,
25 2019, right?

1 A. My response would be the same.

2 Q. Okay. And Figure 2 of Company
3 Exhibit 1E, dated June 28, 2019, portrays the areas
4 in which the shadow flicker will occur as modeled by
5 that study, correct?

6 A. The margin in this figure states
7 "Expected Shadow Flicker" is what I can read.

8 Q. Okay. Now, with regard to the shadow
9 flicker results that were you obtained from this
10 modeling in Company Exhibit 1E, dated June 28, 2019,
11 were those results based on the turbine layout that
12 you see in Figure 2 of that exhibit?

13 A. Just as a point of clarification,
14 Figure 2, I'm seeing a turbine layout, this is
15 Figure 2 of Exhibit E of the June filing, referencing
16 specifically the modeling done for the V136. I'm
17 seeing a turbine layout that seems to be inclusive of
18 more than 50 turbine locations. I believe if we can
19 look at the supplement itself, we'll be able to
20 determine whether these figures were simply placed in
21 this document by mistake or if the modeling for the
22 V136 shadow flickering was at fault.

23 Q. And the document you have in front of you
24 provides you with those figures, correct?

25 A. Let's see. If we turn to page 7 of

1 Exhibit E, the shadow flicker analysis that was
2 submitted in June of 2019.

3 ALJ AGRANOFF: Is that Exhibit 1E?

4 THE WITNESS: I think so.

5 ALJ SANYAL: Yes.

6 THE WITNESS: Okay. Thanks.

7 ALJ SANYAL: Okay. Which figure are we
8 on?

9 THE WITNESS: This would be the page
10 immediately preceding all figures for this report or
11 modification. The underlined text at the top says
12 "Conclusion."

13 Q. (By Mr. Van Kley) Okay. So the question
14 I had for you then was, have you found data in this
15 report that sheds any light on whether the turbines
16 depicted in Figure 2 are the same locations or are --
17 are inclusive of just more turbine locations than the
18 50 or -- I think that's the question you had.

19 A. I think the intent here is to clarify or
20 get some further intel on whether these figures that
21 are included in Exhibit E of this shadow flicker
22 update for the V136 are indicative of the text in
23 this very same exhibit. And on the reference sheet
24 that I pointed you to, Conclusion, page 7, the very
25 first sentence, if we're all there, is "In summary,

1 as a result of modeling the proposed 50 turbine
2 locations using the V136 model," et cetera.

3 There's another reference if you guys can
4 flip back a few additional pages. This would be
5 page 1 of Exhibit E. I'm not seeing a page number at
6 the very bottom but you'll see the next page is
7 page 2 of Exhibit 1E for the filing for June 2019.
8 This is in the first paragraph. Where did we go.
9 Oh, shoot. This is the final paragraph under the
10 Methods section. "This updated shadow flicker
11 analysis evaluated the potential impact of 50 Vestas
12 V136-3.6 megawatt turbines."

13 So I see at least two references in the
14 text that I can point to now that seem to reflect
15 that the shadow flicker modeling included in
16 Exhibit 1E of the June 2019 filing is reflective of
17 the current layout of 50 turbines.

18 Understanding that these two figures that
19 you've pointed me to in 1E, these are Figures 1 and
20 2, these figures appear to reflect a different
21 project layout which is not referenced in the text
22 from what I can tell.

23 Q. Well, do you see anything in this report
24 that indicates whether these 50 modeled locations
25 were conducted at the turbine sites that are

1 currently being considered for the project as opposed
2 to an outdated turbine layout?

3 MR. STINSON: Could I have the question
4 reread, please?

5 (Record read.)

6 A. So I just pointed to two examples in the
7 text where we refer to 50 modeled turbine locations.
8 The figures you're discussing with an outdated layout
9 are inclusive of more than 50 turbine locations. So
10 the text would lead me to believe that the analysis
11 was performed on the current 50-turbine layout.

12 Q. And my question is, how do you know that
13 the 50 modeled turbine locations are the location --
14 locations of the current layout?

15 A. The current layout of 50 turbines is the
16 only layout we've proposed of exactly 50 turbines.

17 Q. But your Figure 1 and your Figure 2 in
18 this document shows a larger layout, right?

19 A. Yes, these two figures show a larger
20 layout that doesn't appear to be consistent with the
21 text of this report.

22 Q. So based on that information, then how do
23 you know that the consultant modeled the 50 current
24 locations of the proposed models?

25 A. I would be referring to the text of this

1 report.

2 Q. Other than what you've just read to us
3 from the text, is there any other language in the
4 report that indicates that the consultant conducted
5 the model using the correct locations?

6 A. If you'll give me one minute, you've
7 asked me to search through this report to find
8 another example and I'm working to do that.

9 If we refer to page 2 of this report,
10 there are a series of bullets following two
11 paragraphs. Bullet 1: "The latitude and longitude
12 coordinates of 50 proposed wind turbine sites
13 (provided by the Applicant)." This would be an
14 additional example where 50 turbines are referenced
15 in the modeling methods in the introduction and in
16 the conclusion of this report, understanding that
17 these figures seem to be depicting a separate turbine
18 layout with more than 50 turbines appearing on those
19 figures.

20 Q. It wasn't clear to me where you were
21 referring to. Are you on Company Exhibit 1E dated
22 June 28, 2019?

23 MR. STINSON: Could I have that reread,
24 please?

25 A. I believe the question was where I was

1 reading from. The quotes I'm reading are from
2 Exhibit 1E. This most recent quote was on page 2 of
3 this shadow flicker report that was provided in June
4 of 2019 to include the V136.

5 Q. Okay. So you're looking at the bullet
6 points on that page, correct?

7 A. The first bullet point that appears on
8 page 2, yes.

9 Q. And it says that inputs -- "Input
10 variables and assumptions used for shadow flicker
11 modeling calculations for the proposed Project
12 include" and then you have the first bullet point
13 that says "The latitude and longitude coordinates of
14 50 proposed wind turbine sites (provided by the
15 Applicant)." That's what you're referring to?

16 A. That's correct.

17 Q. Okay.

18 A. So my final statement there was that we
19 have found an instance within this section which is
20 called "Methods" wherein a turbine layout of 50
21 locations is made reference as in the introduction
22 which we quoted previously and the conclusion which
23 we quoted previously.

24 Q. Does this document contain the latitude
25 and longitude coordinates for the turbine sites as

1 they were modeled? I guess I would refer you to --
 2 wait, a minute, I'm looking at the noise report.
 3 Forget that.

4 ALJ SANYAL: Mr. Van Kley, I just have a
 5 quick question. It is 12:20 and I think your prior
 6 estimate was that you needed about three hours for
 7 Mr. Carr for cross, so are we? How much --

8 MR. VAN KLEY: Well, we started 9:30.

9 ALJ SANYAL: We did not. We started at
 10 like 9:15.

11 MR. VAN KLEY: And I'm almost finished.

12 ALJ SANYAL: Okay. Excellent.

13 THE WITNESS: Mr. Van Kley, I'd like to
 14 direct you to Attachment B of this report, 1E, for
 15 shadow flicker modeling for the V136 filed June of
 16 2019. This is later in the report following figures.
 17 It should be just a few pages behind where you are.
 18 It's the first page of Attachment B.

19 ALJ SANYAL: What is -- I'm sorry, I have
 20 a question. Are you looking at the section entitled
 21 "WTGs"?

22 THE WITNESS: Yes.

23 ALJ SANYAL: Are those the coordinates?

24 THE WITNESS: Yes. And additionally,
 25 I've got one point to make regarding this list. If

1 you're there, Your Honor, this list continues onto
2 the second page of Attachment B.

3 Are you there, Mr. Van Kley?

4 MR. VAN KLEY: I am, yes.

5 THE WITNESS: So about halfway down on
6 the sheet you have a heading that says "WTGs."
7 That's referencing wind turbine generators. Now we
8 have not only coordinates but a numbering scheme for
9 those turbines at the far left of that table which
10 continues onto the second page of Exhibit B. There's
11 no reference to any turbine beyond T50. This would
12 demonstrate to me that these inputs, these wind
13 turbine generator location inputs are referencing a
14 turbine facilities layout of 50 turbine locations and
15 not greater than 50 like we see in Figures 1 and 2 of
16 this same document.

17 Q. (By Mr. Van Kley) Are the latitude and
18 longitude coordinates of the modeled turbines
19 provided in Attachment B?

20 A. If you look at, this would be columns 2
21 and 3 of this table, you've got "Easting" and
22 "Northing" listed.

23 Q. And those are the coordinates?

24 A. It's certainly a geo-reference for that
25 location.

1 Q. What does that mean?

2 A. When the consultant is providing easting
3 and northing, this is a tool we're using to reference
4 where this turbine generator appears. I'm not sure
5 whether these are specific to a coordinate system,
6 it's not my area of expertise, but I'm aware with an
7 easting and northing you can locate that machine
8 geographically.

9 Q. Well, let's move on. Go to the narrative
10 of the Application of December 26, 2018, which has
11 been marked as Company Exhibit 1-C.

12 ALJ SANYAL: Are we looking at the clean
13 copy?

14 MR. VAN KLEY: The clean version, yes.

15 THE WITNESS: Mr. Van Kley, where am I
16 headed with the text?

17 MR. VAN KLEY: Page 86. I'm sorry, go to
18 page 87.

19 MR. STINSON: Mr. Van Kley, if you could
20 identify that further by section or paragraph number,
21 I'd appreciate it.

22 MR. VAN KLEY: Yes. It's in 4906-4-08
23 and it's under 9, Shadow Flicker.

24 MR. STINSON: Thank you.

25 THE WITNESS: Mr. Van Kley, did you say

1 page 57 and 58 of the --

2 MR. VAN KLEY: 87.

3 THE WITNESS: 87, okay.

4 MR. VAN KLEY: Can you tell me when
5 you're there?

6 THE WITNESS: Okay.

7 Q. (By Mr. Van Kley) All right. Referring
8 you to the second bullet point on that page which is
9 towards the bottom of the page which reads "Latitude
10 and longitude coordinates for 837 potential receptors
11 located in the 10-rotor diameter (1,500 meters) Study
12 Area (provided by the Applicant)." Do you see that?

13 A. Yes.

14 Q. Okay. Based on the shadow flicker
15 studies that have been done, will 837 receptors be
16 exposed to at least some shadow flicker?

17 A. I don't have an answer for that. I would
18 refer to the report.

19 Q. Go to the next page, page 88.

20 A. Okay.

21 Q. I'd like you to look at the first
22 paragraph following the bullet points. Go down to
23 the fourth line to the sentence starting with the
24 words "A receptor." Tell me when you found that.

25 A. Okay.

1 Q. And it reads as follows: "A receptor in
2 this 'greenhouse' model is defined as a one square
3 meter area located one meter above ground; actual
4 house dimensions are not taken into consideration."
5 Do you see that sentence?

6 A. Yes, I do.

7 Q. Okay. Can you tell me what your
8 understanding of the meaning of this sentence is?

9 A. Which portion of that sentence?

10 Q. The whole thing.

11 A. I suppose I can answer this in steps.
12 There are several points here.

13 A receptor is described in this sentence
14 as a greenhouse in terms of this study. My general
15 understanding is that's a reference to the treatment
16 of each receptor as a window extending for the
17 dimensions that we're studying. So essentially you'd
18 have a structure which is perceived to be a window
19 which will be receiving shadow flicker rather than a
20 structure with windows that appear on sections of
21 that structure. So we're treating each structure
22 itself as a window in any direction. That would be
23 the greenhouse model point that appears first in this
24 sentence.

25 Later, the consultant says that each one

1 of these receptors is defined as a one square meter
2 area located one meter above ground. This seems to
3 be a simplification of the model that was employed in
4 our case. Wherein, we did not model the exact
5 dimensions of each home as that, to my knowledge, is
6 not required at this point.

7 Q. Was the greenhouse model used for the
8 shadow flicker study that was submitted in
9 December 29, 2018 as part of the Amended Application,
10 Exhibit 1C?

11 A. I would imagine that the statements made
12 here in the text of the Application are reflective of
13 the study that was performed at this time.

14 Q. And was the greenhouse study also used
15 for the study that was submitted to the Board on
16 June 28, 2019, as shown in Company Exhibit 1E?

17 A. I don't have that information in front of
18 me but, generally speaking, I would imagine a similar
19 approach.

20 Q. So as stated in this sentence then, the
21 shadow flicker analysis assumed that the receptor
22 would be a one square foot -- one square meter area?

23 A. That's correct. I think a greater term
24 for that would be one cubic meter.

25 Q. Go to page 89.

1 A. Same document?

2 Q. Yes.

3 A. Okay.

4 Q. Table 8-3 on page 89 and page 90 shows
5 the approximate times of the day in which a receptor
6 would potentially be affected by shadow flicker as
7 based on the model that was submitted on December 26,
8 2018, correct?

9 A. I do see a header on that table for
10 "Approximate Times of Day Receptor Potentially
11 Affected by Flicker," yes.

12 Q. So Republic Wind, before it starts
13 operating the turbines, will be able to know the
14 times of the day and the dates on which shadow
15 flicker will be cast on recipients of that shadow
16 flicker from its various turbines, correct?

17 A. It's important to note this is the
18 preliminary desktop study for shadow flicker. This
19 is not the final report reflective of the final
20 turbine model nor final operations measures that
21 would ensure that we do not exceed a 30-hour-per-year
22 limit. This is the base modeling that's used in the
23 Application that's required at this point. Yes, via
24 this modeling we can see what the estimated impact
25 time frames would be; however, this is not final.

1 Q. Your -- Republic Wind is planning to do
2 an updated shadow flicker study once it has a final
3 layout prior to construction, right?

4 A. That's correct.

5 Q. Okay. So at that time it will note the
6 dates and the times on which shadow flicker will be
7 cast on receptors using the layout, the final layout
8 at that time.

9 A. The project will certainly be compliant
10 with applicable code and recommendations from OPSB
11 Staff. I'm not sure of the particulars there.

12 Q. Well, you're going to -- Republic Wind is
13 going to do a new sound -- a new shadow flicker study
14 that contains the same types of information you see
15 on Table 8-3 in the Application dated December 26,
16 2018, correct?

17 A. If that is a requirement of the Board or
18 if otherwise required by code.

19 Q. Go to page 91 of the same document. I'd
20 like to refer you to the last sentence on that page
21 which reads as follows: "Shadow flicker mitigation
22 measures could include screening such as vegetative
23 planting, window treatments, and/or curtailment of
24 certain turbines operation during select times." Do
25 you see that sentence?

1 A. I don't. If you could help guide me to
2 that real quick.

3 Q. We're on page 91. We're in the very last
4 sentence on that page.

5 A. Okay. I was in the wrong paragraph.

6 Q. Do you need me to reread it?

7 A. I can certainly read. This is the final
8 sentence, right?

9 Q. Yes.

10 A. "Shadow flicker mitigation measures could
11 include screening such as vegetative planting, window
12 treatments, and/or curtailment of certain turbines
13 operation during selected times."

14 Q. My question is, what's meant by
15 "curtailment" as used in that sentence?

16 A. Generally speaking this would be reducing
17 operations of a turbine in order to mitigate some of
18 the anticipated shadow flicker.

19 Q. Does that mean that Republic Wind would
20 shut off the relevant turbines so they would not
21 rotate during that time?

22 A. That is to say that Republic Wind would
23 operate the turbines in such a way that the shadow
24 flicker limit of 30 hours per year was not exceeded.

25 Q. But curtailment means shutting off the

1 turbine, right?

2 A. To my knowledge, "curtail" is to reduce
3 operations.

4 Q. Reduce operations? Okay. And does that
5 mean that at least -- that the reduced operations
6 would be accomplished by turning off a turbine or
7 more than one turbine for a period of time that is
8 required to meet the standard provided by the
9 certificate?

10 A. I don't have an answer. I can say we
11 will operate in such a way that we comply with the
12 standard, as proposed by Staff, of no more than
13 30 hours per year of shadow flicker at each receptor.
14 As to how we achieve that, that will be discussed
15 later.

16 Q. Well, one way you can achieve it is by
17 simply shutting off the turbine that is causing the
18 receptor to experience more than 30 hours of shadow
19 flicker per year, for whatever period of time it's
20 needed to be shut off to accomplish that limit,
21 right?

22 A. I don't know.

23 Q. Well, if you shut off a turbine, will it
24 cast shadow flicker?

25 A. A nonoperational turbine will still cast

1 a shadow. It would not, in fact, cause the
2 alternation of sunlight to shadow you would see when
3 the turbine is turning.

4 Q. So it would no longer cast the flicker of
5 the shadow. It would no longer -- it would no longer
6 cast flickering shadows. It would be a stationary
7 shadow instead?

8 A. A stationary structure would be
9 understood to not be causing this alternation,
10 correct.

11 ALJ AGRANOFF: Is reducing the speed of
12 the turbine a potential mechanism to reduce the
13 amount of shadow flicker?

14 THE WITNESS: I don't know. I would
15 refer to any other information included in the
16 Application and, of course, what other measures are
17 determined by Staff later. This is not my area of
18 expertise. I have general knowledge of this report
19 and, of course, a very general knowledge of the
20 science behind it.

21 MR. VAN KLEY: I have no further
22 questions at this time.

23 ALJ SANYAL: Let's go off the record.

24 (Discussion off the record.)

25 ALJ SANYAL: Let's get back on the

1 record.

2 Mr. DeVine, whenever you're ready.

3 - - -

4 CROSS-EXAMINATION

5 By Mr. DeVine:

6 Q. Good afternoon, Mr. Carr.

7 A. Good afternoon.

8 Q. Did Republic Wind do any advertising on
9 Facebook or other forms of social media for this
10 project?

11 A. I believe we did.

12 Q. Do you know what the budget was for that
13 advertising?

14 A. I don't have that information offhand.

15 Q. Do you have your testimony in front of
16 you?

17 A. I do.

18 Q. Okay. On page 8, around line 22, there's
19 a sentence "However, Republic Wind went beyond these
20 requirements to engage the local community about the
21 Project." Do you see that sentence?

22 A. I see that.

23 Q. Does the fact that Republic Wind
24 sponsored the Seneca County Junior Fair have any
25 relevance regarding whether the Ohio Power Siting

1 Board grants the Application?

2 A. You're referring to engagement of the
3 local community, that seems to be point here.

4 Q. Yes.

5 A. We engaged the local community to ensure
6 we were part of the community, that people knew our
7 faces, they knew where our office was, and they knew
8 we were available to answer questions if they ever
9 had them. Our intent was to be a prominent voice
10 locally and for folks to know who we were and so
11 that's -- that's the intent of this statement here.

12 And the list of support that we offered
13 to the community over time and availability over time
14 just goes to demonstrate that point. The point is
15 not made to convince the Power Siting Board to
16 approve a project. It is simply to explain one of
17 our development ideologies for this project.

18 Q. Thank you.

19 Turning to page 11, starting on line 18,
20 we have a sentence "Republic Wind mitigated visual
21 impacts by siting the Project in a rural residential/
22 agricultural zone, which has a relatively low density
23 of viewers."

24 A. I see that.

25 Q. And that's your testimony?

1 A. Yes.

2 Q. So am I to understand that it was
3 important to, if they're going to be offensive to
4 viewers, that the number of people you offended was
5 small and not large?

6 MR. STINSON: Can I have the question
7 reread, please?

8 (Record read.)

9 A. That seems to be an inference from the
10 statement and not at all the intention of this
11 statement.

12 Q. Okay. Well, why not put it in the City
13 of Tiffin or on the edge of the City of Tiffin, where
14 there would be a high density number of viewers?

15 A. Would that be your request, Mr. DeVine?

16 Q. Would that be my request? That would be
17 my question. Why not put it on the edge of Tiffin?

18 A. Given setbacks in the state of Ohio,
19 we're required to be so far from roads, from
20 pipelines, from homes, by extension of the property
21 line setback, for those reasons we require a rural
22 agricultural area to site the wind farm.

23 Q. So what's the relevance of low density
24 number of viewers? Why do you include that language
25 in your testimony?

1 A. A low density number of viewers is
2 required to comply with the sound and shadow flicker
3 impacts, among other impacts, that are assessed by
4 this project during this process.

5 Q. If you could turn to page 14. Starting
6 at the end of line 7, talking about karst formations.
7 Your testimony is "Republic Wind will avoid those
8 locations for siting turbines," and that's in
9 reference to karst; is that correct?

10 A. I believe this might mischaracterize the
11 statement that's made here. If we read the sentence
12 from the beginning. It starts in line 5, page 14.
13 "I note that the Staff Report contains no conditions
14 related to Karst formations; however, the report's
15 text (at page 26) states that if these subsequent
16 investigations identify Karst formations, Republic
17 Wind will avoid those locations for siting turbines."
18 This is a quote of Staff.

19 Q. Are you aware of karst formations in the
20 footprint for the project?

21 A. I'm generally aware that karst is a
22 feature that occurs regionally.

23 Q. Has -- have you been involved in any
24 other projects where karst has been prevalent in the
25 project area?

1 A. Not personally.

2 Q. Has your company been involved in
3 projects where karst has been prevalent in the
4 project area?

5 A. To clarify my previous response, I've
6 been involved in the development of the Republic Wind
7 project, as stated before, the Emerson Creek project,
8 the Emerson West project, all of which are located in
9 the same area. So if we're saying that, for example,
10 Republic may or may not have karst topography
11 locally, I want to clarify that I have been involved
12 in other local projects that may also be assessed as
13 having the same features. However, I have not been
14 involved in other projects of that nature.

15 Q. Has Republic or Apex built turbines on
16 areas where karst is prevalent?

17 A. Generally speaking, I believe our
18 operations and construction teams have mitigated this
19 risk in other cases.

20 Q. So they have built turbines on
21 karst-prevalent areas?

22 A. Again, generally speaking, I believe that
23 this issue has come up with construction previous
24 with Apex projects. I don't want to apply terms like
25 "prevalent" here, given I have no basis to apply that

1 assessment.

2 Q. You're familiar with Exhibit AA of the
3 Application, the visual impact assessment?

4 A. I don't have it in front of me.

5 Q. You're generally familiar with the
6 assessment that was done by, I believe it's
7 Mr. Robinson?

8 A. This is the visual impact assessment?

9 Q. Yes.

10 A. As submitted which date?

11 ALJ SANYAL: Are you referring to the
12 December 27, 2018 exhibit?

13 MR. DeVINE: I'll ask a different
14 question.

15 Q. I'm going to suggest that the Exhibit AA
16 states that "Scenic quality and viewer sensitivity in
17 these areas are relatively high due to their natural
18 character and the recreational use they receive," and
19 that quote is in reference to parks.

20 ALJ AGRANOFF: Are you reading from the
21 Amended Application or from the original application?

22 MR. DeVINE: I'm reading from Exhibit AA,
23 page 18. I don't know if it was the Amended or not.

24 MR. STINSON: I think we need a
25 reference, Your Honor, so the witness can review --

1 ALJ SANYAL: I agree.

2 MR. DeVINE: December '18.

3 ALJ SANYAL: Okay. December 27, 2018,
4 and is it Exhibit 1D, Applicant's Exhibit 1D?

5 THE WITNESS: You said Exhibit 1D.

6 ALJ SANYAL: It's Applicant's Exhibit 1D
7 according to my records from earlier this morning.
8 And then could you give us the page reference,
9 please?

10 MR. DeVINE: Page 18.

11 A. Mr. DeVine, I've pulled up what I believe
12 to be the exhibit filed December 2018.

13 Q. And we're looking at page 18.

14 A. Okay.

15 Q. There's the -- there's a photograph at
16 the top and then the last sentence of the first
17 paragraph.

18 A. You're referencing -- oh, yes, the last
19 sentence of the first paragraph, I'm there.

20 Q. The last sentence of the first paragraph.
21 "Scenic quality and viewer sensitivity in these areas
22 are relatively high due to their natural character
23 and the recreational use they receive."

24 A. Okay.

25 Q. Do you agree with that statement that's

1 included in that exhibit?

2 A. I would defer to Witness Robinson who
3 will testify regarding this study and the
4 qualification of that statement.

5 Q. Does Republic Wind believe that parks are
6 scenic, have scenic quality and viewer sensitivity
7 that should be assessed from a perspective of being
8 sensitive to what people see when they're at a park?

9 MR. STINSON: Object to form, Your Honor.
10 I don't think the question is clear.

11 Q. Does your company agree with that
12 statement that scenic quality and viewer sensitivity
13 in park areas are relatively high due to the natural
14 character and the recreational use they receive?

15 MR. STINSON: Again, I have to object to
16 what the Company believes. We have Mr. Carr on the
17 stand here.

18 ALJ SANYAL: Overruled. You may answer.
19 And we can have the question read back if you need
20 it.

21 THE WITNESS: It's fine.

22 A. As the Development Manager for the
23 project, it's my job to ensure the Application is
24 filed, that the project is developed in a timely way
25 to ensure that we achieve our certificate that is

workable. To that end, I'm not -- I'm not able to speak on behalf of what Apex believes. This report is reflective of the work we did, it's reflective of the work that Witness Robinson performed, and he can certainly speak to the qualification of this statement in this report.

Q. Could you turn to page 30 of that same exhibit.

A. Okay.

Q. As it relates to the -- I'm directing your attention to the first full paragraph.

A. Okay.

Q. Am I to understand that the parks that were visited for the Seneca County Park District were the Clinton and Steyer Nature Preserves?

A. It's certainly a quote of the first sentence of this paragraph.

Q. Are you aware of any other parks being visited or considered -- I'm sorry, visited and photographed other than Clinton and Steyer?

A. I would defer to Witness Robinson concerning this report.

MR. DeVINE: Permission to approach the witness with an exhibit?

ALJ SANYAL: Yes, you may. And are we

1 marking this?

2 MR. DeVINE: Seneca County Park

3 Exhibit 1.

4 (EXHIBIT MARKED FOR IDENTIFICATION.)

5 Q. (By Mr. DeVine) Mr. Carr, I've shown you
6 what's been marked as Seneca County Park Exhibit 1,
7 and I would represent to you that the green area in
8 the center of the exhibit is the Bowen Nature
9 Preserve, a park within the Seneca County Park
10 District.

11 A. Okay.

12 Q. By my count, there are 21 proposed
13 turbine sites within two and a half miles of that
14 park district park.

15 A. Okay.

16 Q. Do you believe that having that many
17 turbines that close to this park ensures the scenic
18 quality and the natural character and the continued
19 recreational use of the Bowen Nature Preserve?

20 MR. STINSON: I'm going to object.
21 Witness Carr has deferred to Witness Robinson on this
22 visual assessment study. I think it's improper to
23 ask Mr. Carr about his personal opinions about this
24 particular exhibit. It's not relevant to this
25 proceeding.

1 ALJ SANYAL: I agree. You can rephrase
2 the question. I think Mr. Carr's personal opinions
3 are irrelevant.

4 Q. (By Mr. DeVine) When you're putting
5 turbine sites for your employer, do you have any type
6 of guidelines that you use as to how far away you
7 stay from parks?

8 A. I'm not aware offhand.

9 Q. Have you ever put turbines in a design in
10 another project in this frequency within two and a
11 half miles of a park?

12 A. I don't have a figure for you.

13 Q. You have no recollection, on the projects
14 you've been involved in, of putting turbines this
15 close to a park?

16 MR. STINSON: Objection again as to form
17 and the use of the word "too close."

18 ALJ SANYAL: I think Mr. DeVine's
19 qualified it by two and a half miles, right?

20 MR. DEVINE: Yes, that's what I --

21 ALJ SANYAL: You may answer.

22 A. I don't have a figure for you.

23 Q. I'm sorry, I didn't hear you.

24 A. I don't have a figure for you.

25 Q. Have you put, in your designs that you've

1 been involved in, have there been turbines within two
2 and a half miles of a park?

3 A. I'm not aware whether we have or have
4 not.

5 Q. Okay. How many turbines are currently
6 part of the Application?

7 A. As proposed, Republic's Application is
8 inclusive of 50 turbine locations.

9 Q. Okay.

10 ALJ SANYAL: Mr. DeVine, I have some
11 questions.

12 MR. DeVINE: Sure.

13 ALJ SANYAL: Where is this map from and
14 who created this map that we're looking at?

15 MR. DeVINE: This map was created -- it
16 was included as an exhibit with the testimony of
17 Sarah Betts and it was created for her testimony.
18 The difference between her testimony exhibit and this
19 is the -- when I was in charge of the technology it
20 was flipped vertical or horizontal, and somebody in
21 my office said, hey, dummy, if you flip it the other
22 way, you can see more; so I flipped it the other way
23 for purposes of this exhibit.

24 ALJ SANYAL: Okay. Thank you.

25 Q. (By Mr. DeVine) In general, if there's no

1 obstruction like a tree, is there any place you could
2 stand in Bowen Nature Preserve, as depicted in Seneca
3 County Park Exhibit 1, and not see a turbine?

4 MR. STINSON: Objection, Your Honor. I
5 think we need more foundation for this exhibit if
6 he's going to continue to refer to it. There's no
7 foundation laid as to how it's created or even
8 Mr. Carr's understanding of the area.

9 MR. DeVINE: Your Honor, I can't put my
10 witnesses on first to establish the foundation for
11 the exhibit. If they want to challenge it later,
12 when the witnesses are called, they can challenge it
13 and move to strike, but the data was taken from the
14 FAA location for the turbines. Am I supposed to
15 bring a witness in for cross --

16 MR. STINSON: I believe you can certainly
17 ask the witness his understanding of the exhibit
18 before he crosses.

19 ALJ SANYAL: I agree you can do that.
20 You could also rephrase your question without
21 referring to the map. I think you can just ask the
22 question.

23 Q. (By Mr. DeVine) Assuming the data in
24 Exhibit 1 is correct and you're not standing behind a
25 tree, can you look in any direction and not see a

1 turbine?

2 MR. STINSON: I don't think there's a
3 proper foundation of his understanding of what this
4 map represents.

5 MR. DeVINE: Could I try again?

6 ALJ SANYAL: Yes. I was going to do it
7 for you.

8 Q. (By Mr. DeVine) Do you know what the map
9 represents, sir?

10 A. It appears to be a depiction of this
11 reserve. I don't really have a good idea of scale
12 but --

13 ALJ SANYAL: Hang on, Mr. Carr. I'm just
14 going to ask a couple questions and hopefully this
15 will help everyone out. So, Mr. Carr, are you aware
16 that the Bowen Nature Preserve is within the project
17 area?

18 THE WITNESS: I had not committed that to
19 memory, but it appears to be the case that's made.

20 ALJ SANYAL: I mean, do you know or you
21 don't? It's a yes or no.

22 THE WITNESS: I believe it's yes.

23 ALJ SANYAL: Okay. So do you know if
24 some -- as part of your experience as the Project
25 Manager of this wind project, if you were in the

1 Bowen Nature Preserve, if there were no trees
2 obstructing your view, would a viewer be able to see
3 wind turbines while they were in the nature preserve?

4 THE WITNESS: So I'm not willing to
5 speculate given that's not my subject matter
6 expertise. However, we have Witness Robinson who
7 will testify to this report and perhaps some of the
8 science and can answer some of the questions like
9 this.

10 ALJ SANYAL: So your answer is you don't
11 know.

12 THE WITNESS: I don't know.

13 Q. (By Mr. DeVine) Have you ever been to
14 Bowen Nature Preserve?

15 A. No.

16 Q. Am I to understand that you weren't aware
17 that Bowen Nature Preserve existed prior to my
18 cross-examination?

19 A. To clarify, I'm aware that there are very
20 many parcels which exist within this project boundary
21 and I have not committed to memory the owners of each
22 of those projects -- each of those parcels; and so,
23 insofar this is a preserve, I've never been to this
24 location to confirm. However, if this is, in fact, a
25 preserve, I can accept that.

1 Q. How many times have you been to the
2 project area?

3 A. I've been to the project area seemingly a
4 few weeks per month over the past four years. Now,
5 each trip would be maybe spending two or three days
6 within the project area.

7 MR. DeVINE: No further questions.

8 ALJ SANYAL: Okay. I understand Staff
9 has no questions?

10 MS. BAIR: No questions.

11 ALJ SANYAL: No questions. So our plan
12 is to break for lunch and then have redirect for
13 Mr. Carr. Does that still sound okay?

14 MR. STINSON: Sounds wonderful, Your
15 Honor.

16 ALJ SANYAL: Okay. We'll do 45 minutes
17 so we'll be back here at 1:50. Let's go off the
18 record.

19 (At 1:05 p.m. a lunch recess was taken
20 until 1:50 p.m.)

21 - - -

1 Tuesday Afternoon Session,
2 November 5, 2019.

3 - - -

4 ALJ SANYAL: Well, let's get back on the
5 record.

6 Mr. Carr, if you'll come back and,
7 Mr. Stinson, you may proceed with redirect whenever
8 you're ready. And again, as I refreshed your memory
9 earlier, Mr. Carr, you're still under oath.

10 MR. STINSON: Well, Your Honors, you'll
11 be happy to know we have very limited redirect.

12 ALJ SANYAL: What does that mean, three
13 hours?

14 MR. STINSON: By my time it's going to be
15 less than a minute probably.

16 ALJ SANYAL: Okay.

17 MR. STINSON: In fact, it's -- I'm sorry,
18 in fact it's more of a clarification to the record.

19 ALJ SANYAL: Sure.

20 - - -

21 REDIRECT EXAMINATION

22 By Mr. Stinson:

23 Q. Mr. Carr, yesterday, if you recall, there
24 was a document involving ice throw and do you recall
25 being asked whether that document had been filed in

1 the "docket." I put the word "docket" in quotes.

2 A. Yes.

3 Q. Do you recall that exchange?

4 MR. STINSON: Your Honor, just to
5 explain. I'll want to clarify because -- I'll ask
6 the witness.

7 Q. Mr. Carr, after you received that
8 question, I believe there were objections and an
9 off-the-record conference with the examiners about
10 the document. Do you recall that?

11 A. Yes.

12 MR. STINSON: And the purpose of my
13 clarification, just to get it on the record what
14 Mr. Carr's understanding of that term "docket" is.

15 Q. Mr. Carr, you're not an attorney,
16 correct?

17 A. No.

18 Q. Okay. And at the time -- when you were
19 asked whether the ice throw study had been filed in
20 the docket, what was your answer?

21 A. I had answered that I believed it was.

22 Q. And at the time you made that answer,
23 what was your understanding of "filing in the docket"
24 to be?

25 A. I had mistakenly understood that items

1 submitted to the Power Siting Board Staff were
2 automatically filed by Staff on the docket.

3 Q. And is that your understanding now?

4 A. No.

5 Q. Okay. And your understanding now is
6 "filed in the docket" means what?

7 A. So during the off-the-record portion, it
8 had been explained to me that filing in the docket is
9 a formal affair from Staff, in that it may not have
10 been done in the case with informal data requests of
11 this nature.

12 MR. STINSON: Thank you. That's all I
13 have, Your Honor.

14 ALJ SANYAL: Okay. And actually,
15 Mr. Van Kley, any cross based on that one
16 clarification question?

17 MR. VAN KLEY: No.

18 ALJ SANYAL: Okay.

19 - - -

20 EXAMINATION

21 By ALJ Agranoff:

22 Q. Mr. Carr, I have a question relative to
23 what has been marked as LR Exhibit 12 which was the
24 noise impact assessment from Case No. 19-1066.

25 MR. STINSON: I'm sorry, Your Honor, but

1 I'm at a disadvantage over here.

2 ALJ AGRANOFF: Sorry. Let's try it by
3 pressing the mic.

4 ALJ SANYAL: It's not working.

5 ALJ AGRANOFF: Let's try it again.

6 Q. (By ALJ Agranoff) Earlier when you were
7 having a conversation with Mr. Van Kley, you were
8 discussing what's been marked as LR Exhibit 12.

9 A. I have that document in front of me.

10 Q. Okay. And if you could please turn to
11 page 24 of that document. Let me know when you're
12 there.

13 A. Okay.

14 Q. Do you see there what has been identified
15 as Table 1, "Background Sound Level Summary by
16 Location"?

17 A. Yes.

18 Q. And then on the far left-hand side, in
19 vertical delineation there's a Middle Monitor, an
20 East Monitor, and a West Monitor.

21 A. Yes.

22 Q. With respect to those three monitors, do
23 you know whether or not those same monitors were
24 utilized with respect to the noise impact assessment
25 that was done in this particular case which is

1 Case No. 17-2295?

2 A. I'm not aware --

3 MR. STINSON: Your Honor, just for
4 clarification, monitor or monitor location?

5 ALJ AGRANOFF: The monitor -- well, it's
6 under the column "Monitor Location" but then there
7 are the three monitors that are identified in that
8 column.

9 MR. STINSON: Thank you.

10 A. I'm not aware of whether the same monitor
11 locations were used for the project Application aside
12 from this.

13 Q. Is there any way for you to verify,
14 through any of the documents that you have in your
15 possession, to see whether or not that is the case?

16 ALJ SANYAL: Mr. Carr, do you understand
17 ALJ Agranoff's question as in these three monitors
18 were they utilized at all in the case we are here for
19 today, the monitor locations.

20 ALJ AGRANOFF: It's identified as a
21 monitor location.

22 MR. STINSON: And again, I would like to
23 just repeat my objection ongoing that we're talking
24 about a different case, Case No. 19-1066, which is
25 not the subject of this proceeding and in which this

1 client has not focused for this hearing. My issue is
2 that we're being asked to identify issues that we
3 haven't considered for this hearing.

4 ALJ AGRANOFF: Understood, but by the
5 same token, this witness is certainly aware of the
6 monitors that were used for the purposes of the noise
7 impact study in this case, and I'm asking whether or
8 not, based on his knowledge of that information,
9 whether or not he can confirm as to whether or not
10 they are the same as what is identified in my
11 question.

12 THE WITNESS: If you'll give me a moment
13 to cross-reference in the Application --

14 ALJ SANYAL: Sure.

15 THE WITNESS: -- and I can tell you
16 whether or not these appear to be the same locations.

17 ALJ AGRANOFF: Thank you.

18 THE WITNESS: Okay. I'm referencing the
19 noise impact assessment that's included as part of
20 the December 2018 filing. This would be Exhibit H.

21 ALJ SANYAL: Almost there.

22 ALJ AGRANOFF: That's Exhibit H of that
23 Amended Application?

24 THE WITNESS: Yes.

25 ALJ AGRANOFF: We're there.

1 THE WITNESS: So I'm on page No. 6 of
2 that noise report of the December 2018 Application.

3 ALJ SANYAL: Okay.

4 THE WITNESS: In Figure 2, this looks to
5 represent the long-term monitoring locations for
6 Republic Wind. These appear, to me, to be the seven
7 that were included in our project Application as far
8 as monitoring locations are concerned. And from what
9 I can tell, these appear to be different from those
10 three monitoring locations included in LR 12 which is
11 the --

12 ALJ AGRANOFF: All three of the monitors
13 in LR 12 are different than the seven that you
14 included in your attachment to the Amended
15 Application?

16 THE WITNESS: I believe so.

17 ALJ SANYAL: And then in LR 12, are you
18 looking at a specific --

19 THE WITNESS: I'm looking at Figure 2 of
20 LR 12, page 7.

21 ALJ SANYAL: Okay. Got it.

22 Q. (By ALJ Agranoff) Was there an intent to
23 still utilize, with respect to the noise impact study
24 that you did in this case, a middle, east, and west
25 type monitor, even though, as you just stated, they

1 were not in the same locations as what Exhibit LR 12
2 reflects?

3 MR. STINSON: Could I have the question
4 reread, please?

5 (Record read.)

6 MR. STINSON: With all respect, I'm going
7 to have to object. Mr. Carr is not the noise
8 assessment expert. He's the Development Manager.

9 ALJ AGRANOFF: If the witness knows the
10 answer to my question, he certainly can answer. If
11 he is not informed enough about that, he can
12 certainly say he doesn't know and then direct us to
13 somebody else who will.

14 A. Perhaps I don't fully understand the
15 question. Could you rephrase?

16 Q. I'm going to assume that "East" and
17 "West" and "Middle," as reflected in Exhibit LR 12,
18 had some geographic significance.

19 A. I would imagine that, generally speaking,
20 the layout of these monitoring locations is dependent
21 on the facility that's being studied. For example,
22 if we're referencing the transmission line
23 application, there's a heavy east-west orient to that
24 transmission line. Perhaps the design of east, west,
25 and middle is reflective of that. However, we do not

1 have that same trajectory with the project itself so
2 perhaps there was a different approach.

3 Q. Okay.

4 A. I see, for example, a north boundary and
5 a south boundary modeling location.

6 Q. I was -- that was what I was attempting
7 to ascertain. So from your perspective then, it
8 would be difficult to correlate or analogize a
9 middle, east, and west as reflected in LR 12 to a
10 noise impact study that would be done for the project
11 in this particular proceeding.

12 A. I can't speak to whether that would be
13 difficult. I'm not sure.

14 Q. But you do not believe that the intent of
15 what you performed in this particular proceeding was
16 intended to utilize the same kind of terminology,
17 nomenclature, identification of monitors, there's no
18 tracking that can be done between that which was done
19 in Case 19-1066 and that which was done in this case
20 with respect to the noise impact study?

21 A. Judging from Figure 2 in the Amended
22 Application of Exhibit H, the noise report, the
23 methodology appears to be different with at least the
24 naming of these locations for monitoring.

25 Q. Okay. And then I did have a question,

1 earlier you had a conversation, I believe with
2 Mr. Van Kley, about the updated noise study where
3 there were assumptions made for the addition of a new
4 model, turbine model, and you had indicated there
5 would be no more than 10, I think it was the Vestas
6 136, is that correct, the new model that you were
7 considering?

8 A. That's correct.

9 Q. And you indicated there would be the use
10 of that turbine model at no more than 10 locations?

11 A. Yes.

12 Q. Is there a reason why that cap was placed
13 on that contemplated substitution?

14 A. Given the reduced capacity of that
15 turbine model at 3.6 megawatts, more locations are
16 required to achieve 200 megawatts which is the
17 capacity of this project; and so, essentially the
18 more locations you build a V136 for the Republic
19 project, the more locations you need to use in total
20 in order to achieve 200 megawatts. That's the
21 reasoning for restricting the number of the V136.

22 Q. Okay. Does the Company have an
23 identified witness who will be speaking to the issues
24 of karst formations?

25 A. Witness McGee will be speaking regarding

1 the groundwater hydrogeological and geotechnical
2 portions of the Application which would include karst
3 considerations.

4 Q. If you could turn to page 16 of your
5 testimony.

6 A. Okay.

7 Q. Specifically Question 29.

8 A. Okay.

9 Q. And I see that you have a reference there
10 about the project will contribute to taxing entities
11 that host the project, primarily the school
12 districts, the townships, and the county.

13 A. Yes.

14 Q. Do you know whether or not there is
15 currently in place an approved PILOT program for
16 Seneca and/or Sandusky County relative to this
17 project?

18 A. Can I qualify my response?

19 Q. However you feel you need to answer the
20 question.

21 A. There's not currently an approved PILOT
22 for Seneca or Sandusky Counties to my knowledge.
23 However, at the time of filing and at the time of
24 application to the Ohio Development Services Agency,
25 the PILOT program for both counties was active and

1 the project received approval from the Ohio
2 Development Services Agency for treatment in this
3 regard, prior to any rescission by either county.

4 Q. Okay. So from the Company's perspective,
5 there's no grandfathering or anything of that sort.
6 From your standpoint then, there is or will be no
7 PILOT program for either Sandusky or Seneca Counties?

8 MR. STINSON: I'm going to interject an
9 objection here. I think we're asking for legal
10 conclusions from this witness.

11 ALJ AGRANOFF: Well, he can tell me
12 whether or not he knows if such a project -- such a
13 program exists at this time and whether or not it's
14 your belief that it will or will not be in effect for
15 this project.

16 MR. STINSON: I still maintain my
17 objection.

18 ALJ AGRANOFF: I understand.

19 A. My understanding, aside from the legal
20 argument, is that the Ohio Development Services
21 Agency oversees compliance with the PILOT and AEZ
22 programs, and we are approved through their process
23 for treatment regarding PILOT payments and treatment
24 of the area as an Alternative Energy Zone for both
25 Seneca and Sandusky Counties.

1 So that's my understanding the way it
2 stands that, although the AEZ, the Alternative Energy
3 Zone, designation may have been rescinded by both
4 counties, at the time of our application to the Ohio
5 DSA, at the time of our certification by the Ohio DSA
6 for this specific tax treatment, both Seneca and
7 Sandusky Counties confirmed to the Ohio DSA that
8 their designation as an Alternative Energy Zone was
9 active.

10 Q. And is it the Company's position then at
11 this point in time, what you just stated is still in
12 effect?

13 MR. STINSON: Could you reread Mr. Carr's
14 last response.

15 (Record read.)

16 Q. And my question is, from the Company's
17 perspective, is it still active.

18 A. Our certification from the Ohio DSA is
19 still active in my opinion.

20 ALJ AGRANOFF: Okay. Based on my limited
21 questions, are there any questions?

22 MR. VAN KLEY: I have a couple.

23 ALJ AGRANOFF: Okay.

24 - - -

RECROSS-EXAMINATION

By Mr. Van Kley:

Q. Mr. Carr, while you're still in the noise report for this project, you had referred to Figure 2 for the locations of the monitoring sites, right?

A. I'm no longer on that page.

Q. Okay. I think, is it page 7 that you were on? I think you're using a different report than I am here. If I recall it's page 7. It's the figure showing the locations of the monitoring sites for this project.

ALJ SANYAL: I think that's on page 6 in the December 11 --

MR. VAN KLEY: Okay.

ALJ SANYAL: -- filing.

THE WITNESS: Okay.

Q. (By Mr. Van Kley) So the monitoring site shown on this figure to be the farthest to the west is the Wooded Area monitoring site, correct?

A. This appears to be correct.

Q. Okay. And the three monitoring sites used for the transmission study in LR Exhibit 12 are all farther west than the Wooded Area site used in this project, correct?

A. This appears to be true.

1 MR. VAN KLEY: Okay. Nothing further.

2 ALJ AGRANOFF: Mr. Stinson.

3 MR. STINSON: Just a few questions to
4 follow up with the noise study to make sure the
5 record is clear and I'm clear.

6 - - -

7 FURTHER REDIRECT EXAMINATION

8 By Mr. Stinson:

9 Q. What distinctions were there between the
10 two studies, the studies for this proceeding and the
11 study for the transmission line proceeding? I think
12 you indicated that there were different names and
13 different studies done; is that correct?

14 A. I'm sorry, can you clarify?

15 Q. Well, I'm just trying to follow up on
16 Mr. Agranoff's -- the Attorney Law Judge Agranoff's
17 questions about when you're reviewing the monitor
18 locations and whether those monitor locations have
19 different names and are the product of a different
20 study than this case.

21 A. Yes, the monitor-naming scheme appears to
22 be different and indicates a separate study that was
23 performed.

24 Q. That's the east-to-west location you were
25 talking about?

1 A. This would be the east-to-west
2 designation in the noise study, yes, and in
3 Exhibit LR 12 there are different -- there's a
4 different naming scheme for these locations.

5 MR. STINSON: No further questions, Your
6 Honor.

7 ALJ SANYAL: Okay. Thank you, Mr. Carr.
8 You may step down.

9 We do have a lot of exhibits to take care
10 of before we move on, so may we go ahead and do that
11 for housekeeping purposes?

12 MR. STINSON: Yes, Your Honor. The
13 Applicant would move the admission of Applicant
14 Exhibits 1 through 15.

15 ALJ SANYAL: Okay. Any objections to 1
16 through 15? Okay. Hearing none -- I'm sorry.

17 Okay. So Exhibits 1 through 15 are
18 admitted.

19 (EXHIBITS ADMITTED INTO EVIDENCE.)

20 ALJ SANYAL: And then 16 through 18 were
21 admitted before.

22 Mr. Van Kley, are you moving any
23 exhibits?

24 MR. VAN KLEY: Yes, Your Honor. We would
25 move into admission LR Exhibit 1.

1 ALJ SANYAL: Okay. Any objections to
2 that? Okay. That one is moved -- that one is
3 admitted. I'm sorry.

4 (EXHIBIT ADMITTED INTO EVIDENCE.)

5 MR. VAN KLEY: The next one is
6 LR Exhibit 9.

7 ALJ SANYAL: Okay. Any objections?
8 Hearing none, that's admitted.

9 (EXHIBIT ADMITTED INTO EVIDENCE.)

10 MR. VAN KLEY: The next one is my
11 favorite exhibit, LR Exhibit 10.

12 ALJ SANYAL: Is this our party with our
13 plants?

14 MR. VAN KLEY: Yes, party in our plants.

15 ALJ SANYAL: Any objection to that one?
16 Okay. That one is admitted.

17 (EXHIBIT ADMITTED INTO EVIDENCE.)

18 MR. VAN KLEY: Okay. The next one is
19 LR Exhibit 11.

20 ALJ SANYAL: Hearing no objections, that
21 one is admitted.

22 (EXHIBIT ADMITTED INTO EVIDENCE.)

23 MR. VAN KLEY: The next one is
24 LR Exhibit 12.

25 ALJ SANYAL: I feel like there may be an

1 objection to that.

2 MR. PARRAM: Objection.

3 ALJ SANYAL: Okay.

4 MR. PARRAM: Your Honor, one, Mr. Old --
5 with Mr. Carr, proper foundation wasn't laid for the
6 noise impact report related to a separate proceeding.
7 Proper foundation was not laid based upon the fact
8 that he did not prepare the noise impact assessment
9 report from Case 19-1066. And also, Your Honor, it's
10 related to a completely separate proceeding that is
11 not before us this day. It's inappropriate to
12 incorporate a noise report related to a separate
13 proceeding that does not address the specific impacts
14 of this particular Case 17-2295, so that's my
15 objection.

16 ALJ SANYAL: Any response?

17 MR. VAN KLEY: Yes, certainly, Your
18 Honor.

19 With respect to the two points that
20 counsel has raised. First of all, Mr. Carr admitted
21 that the project was performed by a Republic Wind
22 consulting company that was acting under his
23 oversight and the report for that study was submitted
24 on Republic Wind's behalf to the Power Siting Board,
25 albeit in another case but it was submitted as

1 representations of Republic Wind as to what the sound
2 levels at those three monitoring sites were at the
3 time that they were surveyed by Republic Wind's
4 consultant.

5 Therefore, the statements in the report
6 are admissions or statements against interest by
7 Republic Wind since Republic Wind provided those
8 statements as its -- as part of its own application
9 to the Board.

10 If the -- if Republican -- if Republic
11 Wind had any doubts about the veracity of that
12 information, surely it would not have submitted that
13 information to the Board under Republic Wind's
14 signature.

15 So albeit that this Board commonly
16 accepts hearsay as shown by the fact it's accepting
17 and has just admitted into evidence several volumes
18 of hearsay in this Application --

19 ALJ SANYAL: I don't think -- I don't
20 think it's a hearsay objection that's being made. I
21 think it's more of a foundational issue, so would you
22 care to respond to that?

23 MR. VAN KLEY: Yeah, sure.

24 With regard to foundation, Mr. Carr
25 admitted that it was a report that was prepared for

1 Republic Wind and that Republic Wind took that report
2 and submitted it to the Board; so that provides the
3 foundation for the admission of the document as a
4 document owned by Republic Wind and, as such,
5 contains statements by Republic Wind.

6 The information in the report itself, to
7 the extent that it is relevant to our case, that is
8 with the restrictions that the Bench has placed on
9 the information being used, to wit the data from the
10 monitoring sites and the locations of the monitoring
11 sites, that is information that is evident from the
12 face of the document itself as well as the fact that
13 Mr. Carr testified on the stand that he could -- he
14 could tell where the monitoring locations were as
15 well. So there's really nothing necessary at this
16 point to admit that document with respect to it being
17 a statement of Republic Wind.

18 I would also mention that had Republic
19 Wind produced this document timely, instead of
20 withholding it from us, this document would have been
21 used during the cross-examination of Mr. Old
22 yesterday since Mr. Old is with RSG and I believe
23 Mr. Old, based on his testimony, admitted that he
24 did -- he did the study.

25 The fact -- the fact that Republic Wind

1 withheld that information from us --

2 ALJ SANYAL: Mr. Van Kley, we're not
3 going to go down that path because we previously
4 determined you already had the document and it was
5 publicly available as of August of 2019, so we're
6 just, you know, thank you for your response with
7 regard to foundation.

8 Do you have a response?

9 MR. PARRAM: Just last response, Your
10 Honor. I think the question of concern with respect
11 to foundation and pulling in another case into this
12 case where the individual that would support the
13 noise reports would be the one that can actually
14 testify to the veracity of the numbers in a
15 completely separate report in a completely separate
16 proceeding.

17 Having Mr. Van Kley try to introduce it
18 into this proceeding when we've already got on the
19 record that it's a different report, different
20 monitors were used, different naming of the monitors,
21 now we're going to rely upon a document that should
22 be addressed in that particular proceeding where it
23 isn't at a point where there's been discovery in that
24 proceeding and actually had a hearing on that
25 document in the proceeding, and now we're using it as

1 a way to interject that document into this proceeding
2 but we've already all acknowledged and heard
3 testimony that it's a completely different report
4 related to a completely different project.

5 I won't go down into the dispute about
6 discovery anymore.

7 ALJ SANYAL: Thank you.

8 Give us a moment.

9 Okay. We've reached a decision. We are
10 going to allow -- allow LR Exhibit 12 to be admitted
11 into the record for the limited purpose of the raw
12 data that is contained on page 24, and that is the
13 qualification. Only for that data that is included
14 there. And limited to that purpose only.

15 MR. VAN KLEY: Okay. Does that mean that
16 information in that report related to the locations
17 of the monitoring sites in that report is also not to
18 be considered or is that to be considered?

19 ALJ SANYAL: I think the locations are
20 fair game.

21 MR. VAN KLEY: Okay.

22 ALJ SANYAL: Any questions?

23 MR. PARRAM: None, Your Honor.

24 ALJ SANYAL: Okay. So LR Exhibit 12 will
25 be admitted with the qualification I just stated

1 moments ago.

2 (EXHIBIT ADMITTED INTO EVIDENCE.)

3 ALJ SANYAL: Are there any other exhibits
4 that I missed? Did we admit LR 8?

5 ALJ AGRANOFF: We did not. That was not
6 moved yesterday.

7 ALJ SANYAL: LR 8 is e-mails dated
8 May 22, 2018, with some redactions.

9 MR. VAN KLEY: No, we did not request the
10 admission of that document.

11 ALJ SANYAL: Okay. And you're not at the
12 moment, correct?

13 MR. VAN KLEY: No, Your Honor.

14 ALJ SANYAL: Okay. Okay. And just
15 for -- just for our record keeping, what about LR 4
16 through 7?

17 MR. VAN KLEY: We're not moving the
18 admission of any of those exhibits.

19 ALJ SANYAL: Then what about
20 LR Exhibit 2?

21 MR. VAN KLEY: Refresh my memory on what
22 that one was.

23 ALJ SANYAL: It's an e-mail and you
24 utilized it while crossing Mr. Carr.

25 ALJ AGRANOFF: It had to do with bats.

1 MR. VAN KLEY: Oh. No, we're not
2 requesting admission of LR 2.

3 ALJ SANYAL: Okay. And then, Mr. Devine,
4 your exhibit, are you admitting that?

5 MR. DeVINE: I'd offer it for admission
6 but I expect lots of objections.

7 ALJ SANYAL: Probably objections.

8 MR. STINSON: Well, there's a big one
9 here, Your Honor.

10 ALJ SANYAL: Yeah.

11 MR. STINSON: There's no foundation and
12 we object to its admission.

13 ALJ SANYAL: And I would agree, so we're
14 not admitting that.

15 MR. DeVINE: I'll bring witnesses to
16 support the exhibit.

17 ALJ SANYAL: Thank you.

18 ALJ AGRANOFF: And just to clarify, you
19 did indicate that same document is attached to one of
20 your witness's testimony.

21 MR. DeVINE: Yes.

22 ALJ SANYAL: Betts.

23 MR. DeVINE: Betts, yes.

24 ALJ SANYAL: Okay. I believe --

25 ALJ AGRANOFF: Let's go off the record.

1 (Discussion off the record.)

2 ALJ AGRANOFF: Let's go back on the
3 record, and if you'd like to call your first witness.

4 MS. AKHBARI: Elyse Akhbari of Bricker &
5 Eckler. I can spell that for you if that would be
6 helpful. It's E-l-y-s-e, last name is A-k-h-b-a-r-i,
7 on behalf of the Company. And the Company would like
8 to call, at this time, Dr. Kenneth A Mundt.

9 ALJ AGRANOFF: If you'd give your address
10 as part of your appearance.

11 MS. AKHBARI: Yes. Business address, 100
12 South Third Street, Columbus, Ohio 43215.

13 ALJ AGRANOFF: Thank you.

14 MS. AKHBARI: Thank you.

15 The Company calls Dr. Kenneth Mundt at
16 this time.

17 ALJ AGRANOFF: Please raise your right
18 hand.

19 (Witness sworn.)

20 ALJ AGRANOFF: Please be seated.

21 MS. AKHBARI: Your Honors, as I mentioned
22 previously off the record, there are two preliminary
23 matters as it relates to Dr. Mundt. One is a pending
24 motion from counsel for the Local Residents; the
25 other is a pending motion on our behalf regarding a

1 motion for leave to substitute an exhibit that was
2 mistakenly transposed in Dr. Mundt's testimony. I
3 think it prudent that we deal with No. 2 and then
4 No. 1 if that's okay with Your Honors.

5 MR. VAN KLEY: Your Honors, for No. 1,
6 the motion to strike, we would like to do voir dire
7 before that motion is decided.

8 ALJ AGRANOFF: Okay. Would you like to
9 do that now or --

10 MR. VAN KLEY: No. We can proceed with
11 the other one first.

12 MS. AKHBARI: Sure. So, Your Honors,
13 just given the schedule of the day, I haven't had the
14 opportunity to confer with Mr. Van Kley yet regarding
15 whether or not he plans to oppose our motion for
16 leave to file updated testimony to include the
17 appropriate references list associated with
18 Dr. Mundt's testimony; so I would like -- that would
19 be my first question. I think that would be the
20 simplest way to deal with this issue.

21 MR. VAN KLEY: Just for the record, can
22 we have a summary of what it is you're substituting
23 in and substituting out?

24 MS. AKHBARI: I have copies of the
25 motions if you need them, Your Honors.

1 ALJ SANYAL: May I have a copy, please?

2 MS. AKHBARI: Of course.

3 ALJ AGRANOFF: With respect to the motion
4 for leave to file updated testimony, would you care
5 to give us a synopsis of what is intended by the
6 request?

7 MS. AKHBARI: Sure, Your Honor. So in
8 the present version of Dr. Mundt's testimony,
9 Exhibit KM-3 was mistakenly filed two times and KM-4
10 was not included in the testimony. Exhibit KM-3 is a
11 list of litigation in which Dr. Mundt was a
12 previously-testifying witness.

13 Corrected Exhibit KM-4 represents a
14 references list, and you can see that attached to the
15 motion as well, for materials relied upon by
16 Dr. Mundt in his testimony and/or cited.

17 MR. VAN KLEY: We're not going to have an
18 objection to this motion to substitute the exhibits.

19 ALJ AGRANOFF: Any other party care to
20 opine? There being no objections, Republic's motion
21 for leave to file updated testimony shall be admitted
22 as part of the record at this time for the purposes
23 of being granted and the substitution of KM Exhibit 4
24 shall occur.

25 I do have one question with respect to

1 the differences of the references cited in KM
2 Exhibit 4 from the studies that are listed in KM
3 Exhibit 5.

4 MS. AKHBARI: Sure, Your Honor. And your
5 question is are they different?

6 ALJ AGRANOFF: Is one a subset of the
7 other?

8 MS. AKHBARI: Sure. So Exhibit KM-5 is
9 actually a formalized literature review, presenting
10 Dr. Mundt's opinions related to the various studies
11 that are in existence at the present time and in the
12 subject matter of health impacts of wind turbine
13 noise and noise in general.

14 I will perhaps have to ask Dr. Mundt to
15 weigh in on whether or not every single reference in
16 Exhibit 4 is included in Exhibit 5. I believe that
17 it is. I believe Exhibit 4 is a reference to
18 everything included in the literature review on top
19 of anything that perhaps was also in the testimony
20 that didn't make it into the literature review.

21 ALJ AGRANOFF: So, in essence, KM-5 would
22 be a subset of KM-4?

23 MS. AKHBARI: Correct. KM-5 should be
24 represented in KM-4, and KM-4 should be the master
25 list of anything that's cited throughout the

1 testimony.

2 ALJ AGRANOFF: Mr. Van Kley, would you
3 care to give a little bit more of an elaboration as
4 to what your objections are with respect to the
5 attachments to Mr. Mundt's testimony?

6 MR. VAN KLEY: Yes, Your Honor. Counsel
7 has just handed me the Amended Direct Testimony of
8 Kenneth Mundt, and I see here that it doesn't appear
9 to have any copies of literature attached to it.
10 However, the version of the witness's testimony that
11 was filed on the docket includes a bunch of articles
12 that are not included in the amended version that
13 I've just been provided.

14 So I guess I -- the first question I have
15 is whether -- whether Republic Wind is withdrawing
16 those articles from the testimony and is no longer
17 asking that copies of the articles themselves be
18 included in the testimony that's admitted into
19 evidence.

20 MS. AKHBARI: Your Honors, just to
21 clarify, and I would direct Mr. Van Kley's attention
22 to Exhibit KM-2, this is "A Critical Review of
23 Scientific Literature" upon which Dr. Mundt was an
24 author.

25 It was my impression -- the motion itself

1 is rather limited in its description of its
2 references. However, I was under the impression that
3 Exhibit KM-2 is what counsel found objectionable in
4 the original filing. Exhibit KM-2 is still reflected
5 in this version that you have before you and I'm
6 assuming counsel has before him.

7 MR. VAN KLEY: Yeah, we didn't express
8 any objection to that exhibit and we still don't have
9 any objection to it.

10 However, I'm looking at a different KM-2
11 that's an article from a publication called "JOEM"
12 entitled "Wind Turbines and Health" that appears to
13 be in the original testimony and then --

14 MS. AKHBARI: Sorry, I apologize --

15 MR. VAN KLEY: I guess I'm asking whether
16 that's been substituted out at this point and is no
17 longer --

18 MS. AKHBARI: It is not.

19 In the stapled version that I just handed
20 to Mr. Van Kley, Exhibit KM-2 is that same article,
21 "Wind Turbines and Health, A Critical Review of
22 Scientific Literature." It's the only full-length
23 article that's attached to the testimony. Nothing
24 has changed regarding Exhibit KM-2 between the
25 original-filed version, docketed version of this

1 testimony and the present time.

2 MR. VAN KLEY: Okay.

3 MS. AKHBARI: It gets a little mixed up
4 in the CV, I understand.

5 MR. VAN KLEY: Yeah, I see that now.

6 With regard to Exhibit KM-2, we do object
7 to that. Under the Rules of Evidence and prevailing
8 practice in the courts, scientific articles or
9 scientific literature are not admissible into
10 evidence.

11 The witness is clear to -- is allowed to
12 refer to them and even quote from scientific articles
13 but, according to the Rule of Evidence that is cited
14 in our motion to strike which is Rule of Evidence
15 803, subset 18, the articles themselves are not
16 admissible into evidence.

17 And the basis for that Rule of Evidence
18 is that admitting entire copies or admitting copies
19 of entire scientific literature lends itself to abuse
20 by the party that sponsored it which is that they can
21 quote, at will, from the article itself even though
22 that article has never been -- was not subject to
23 cross-examination or even referenced by the witness
24 in the testimony and therefore not lead to
25 cross-examination.

1 And if, you know, if the article itself
2 is admissible then it places a burden on counsel to
3 go through every statement made in the article and
4 crossing on it if there's a disagreement with that
5 statement which is not really the -- really the
6 function of an expert witness's testimony because it
7 would bog down the hearings or trials and, for that
8 reason, the Supreme Court rule has provided that
9 scientific articles are hearsay that are not
10 admissible into evidence due to those policy
11 considerations, so we would oppose the admission into
12 evidence of KM-2.

13 ALJ AGRANOFF: Do you want to also, to
14 the extent you have objections to KM-4 and 5, discuss
15 those?

16 MR. VAN KLEY: Okay. Let me check to see
17 whether I have a clear understanding as to what those
18 are. KM-4 is a reference list for the witness. We
19 do not have an objection to that exhibit.

20 Let me look at the others. Am I correct
21 in understanding that KM-5 is a document that the
22 witness has written himself?

23 MS. AKHBARI: That's correct. Your
24 Honors, it's a literature review authored by the
25 witness.

1 MR. VAN KLEY: Okay. Then I have no
2 objection to that.

3 ALJ AGRANOFF: And just so I can get
4 clarification with respect to -- with respect to
5 KM-4, the witness is one of the principal authors of
6 that particular study or article?

7 MS. AKHBARI: KM-2, I believe, is the
8 appropriate reference, and yes, that's correct,
9 Dr. Mundt, himself, is one of the coauthors. He's
10 actually second lead author on this study.

11 MR. VAN KLEY: That doesn't make it any
12 more admissible under the Rule of Evidence.

13 ALJ AGRANOFF: And KM-2 was relied upon
14 by the witness for the purposes of developing his
15 testimony?

16 MS. AKHBARI: Correct, Your Honor.

17 MR. VAN KLEY: To the extent that the
18 witness may have relied on information or drawn on
19 information in Exhibit KM-2, the witness presumably
20 stated in his testimony what information from that
21 article was relied on and what he drew from that
22 article, so there's no need to have the article
23 separately admitted into evidence and that's the way
24 the Rule of Evidence works with regard to scientific
25 literature. The expert is free to draw information

1 from scientific literature to refer to it and cite to
2 it even verbatim, but is not allowed to introduce
3 that scientific literature into evidence because of
4 the abuses that I've already described.

5 ALJ AGRANOFF: In light of the fact that
6 the witness is an author to this particular article
7 and is present for cross-examination, I will allow
8 the admission of KM-2 at this time. And if you could
9 please proceed with your direct, I would appreciate
10 it.

11 MS. AKHBARI: Thank you, Your Honors.

12 (EXHIBIT MARKED FOR IDENTIFICATION.)

13 - - -

14 KENNETH A. MUNDT

15 being first duly sworn, as prescribed by law, was
16 examined and testified as follows:

17 DIRECT EXAMINATION

18 By Ms. Akhbari:

19 Q. Good afternoon, Dr. Mundt. Please state
20 your full name for the record.

21 A. Good afternoon. Kenneth A. Mundt,
22 M-u-n-d-t.

23 Q. And by whom are you employed, Dr. Mundt?

24 A. I'm employed by a company called Cardno
25 ChemRisk.

1 Q. And, Dr. Mundt, do you have in front of
2 you a document marked Exhibit 19?

3 A. I have a copy of it. It's, itself, not
4 marked.

5 Q. Unmarked, okay.

6 MS. AKHBARI: Your Honors, could we
7 please approach the bench to mark the exhibit?

8 ALJ AGRANOFF: Certainly.

9 MS. AKHBARI: Thank you.

10 Thank you.

11 Q. Dr. Mundt, what is Exhibit 19?

12 A. This is a copy of my Direct Testimony and
13 attachments.

14 Q. And was Exhibit 19 prepared by you or at
15 your personal direction?

16 A. Yes.

17 Q. And if I were to ask you the same
18 questions that are contained in Exhibit 19, today,
19 would your answers change?

20 A. No.

21 Q. Do you have any modifications to
22 Exhibit 19 as it appears before you?

23 A. No.

24 MS. AKHBARI: Thank you, Dr. Mundt.

25 Your Honors, I move the admission of

1 Exhibit 19, pending cross-examination, and at this
2 time tender the witness for cross.

3 ALJ AGRANOFF: Thank you.

4 Mr. Van Kley.

5 MR. VAN KLEY: Yes, Your Honor. At this
6 point we would like to do some voir dire in support
7 of our motion to strike.

8 ALJ AGRANOFF: Please proceed.

9 - - -

10 VOIR DIRE EXAMINATION

11 By Mr. Van Kley:

12 Q. Mr. Mundt, what is your occupation?

13 A. I'm an epidemiologist.

14 Q. And what is an epidemiologist?

15 A. One who studies the causes of disease.

16 Epidemiology comes from "epi" meaning over, and
17 "demos," the people. We look at groups of people to
18 determine causes of disease.

19 Q. Are you an acoustics engineer?

20 A. No, sir.

21 Q. Are you any type of engineer?

22 A. No. I'm an epidemiologist. It's a
23 health scientist, not a branch of engineering.

24 Q. All right. In the course of your
25 occupation as an epidemiologist, do you routinely

1 perform sound measurements or sound monitoring?

2 A. Personally I do not. As in any of the
3 epidemiological research that I perform, I'm
4 dependent on experts in exposure sciences, such as
5 acousticians or industrial hygienists, to measure the
6 exposures that I then, as an epidemiologist, link
7 with diseases which are specifically diagnosed by
8 physicians. I don't do the diagnosing of patients
9 either. Epidemiology is the connection between the
10 exposure sciences and the diagnostic sciences to
11 understand patterns of disease in population.

12 Q. Do you design mitigation for loud noises?

13 A. No, sir.

14 Q. Do you have any degrees --

15 A. Yes, sir.

16 Q. I'm sorry, I didn't finish the question.
17 Do you have any degrees in acoustics?

18 A. No, sir.

19 MR. VAN KLEY: Your Honor, at this time I
20 think it's evident that the witness is not an
21 acoustical engineer. The witness does not have any
22 specialized training with regard to acoustics, yet
23 the witness's written testimony expresses opinions
24 about acoustics topics in two locations, two excerpts
25 that we've cited in our motion to strike and it's

1 evident that this witness does not have the expertise
2 to render the opinions stated in those excerpts as
3 cited in our motion to strike.

4 MS. AKHBARI: Your Honors, we would of
5 course oppose those statements and if I'd be
6 permitted to speak on the topic?

7 ALJ AGRANOFF: Absolutely.

8 MS. AKHBARI: Great. So the testimony
9 that Mr. Van Kley is seeking to strike on pages 16
10 through 20, more succinctly described as subsection V
11 of Dr. Mundt's testimony, this information that
12 Mr. Van Kley would like to strike contains relevant
13 contextual information. It's not based on the
14 expertise of an acoustician or acoustic engineer, it
15 does not represent that it would need to be based on
16 those types of expertises. What's simply set forth
17 here is placing wind turbine noise in the context of
18 other household items, just things that individuals
19 are familiar with and helps us to consider wind
20 turbine noise as a noise not in a vacuum.

21 Dr. Mundt does not undertake any critique
22 on the methodology of gathering acoustic information,
23 of taking measurements, he's not opining on levels.
24 He has citations for each of these references. He's
25 simply providing contextual background information on

1 the subject of sound.

2 This testimony, pages 16 through 20, is
 3 meant to put the Board and others, that are looking
 4 at this document, on notice of where wind turbine
 5 noise falls when compared with other sounds, but
 6 nowhere does Dr. Mundt represent he's calculated that
 7 information, he's not telling you how you would go
 8 about calculating the dBA of a vacuum cleaner. He's
 9 simply telling you what a vacuum cleaner would be
 10 compared to wind turbine noise.

11 Moreover, he cites references for all of
 12 these various numbers that he set forth. Moreover, I
 13 think that counsel has not gone about the business of
 14 parsing subsection V. Even if he finds some of it
 15 objectionable, certainly other parts are clearly not
 16 and we can talk about those in more detail if counsel
 17 is interested in providing more background on exactly
 18 which portions of this subsection he's taking issue
 19 with.

20 MR. VAN KLEY: Your Honor, may I respond?

21 ALJ AGRANOFF: Certainly.

22 MR. VAN KLEY: All right. For example,
 23 with regard to the testimony that starts on page 16
 24 of the witness's testimony, opinions about the sound
 25 levels of various sound sources is the work of an

1 acoustics engineer. The witness has no expertise,
2 for example, to opine about the sound pressure level
3 of a vacuum cleaner or the sound pressure levels of
4 any of the sound sources in Tables 1 and 2.

5 The fact that the witness had to cite
6 other references in order to provide any basis for
7 his opinion demonstrates that he doesn't have the
8 expertise to opine about what the sound pressure
9 levels for any of these sources are.

10 If Republic Wind had wished to produce
11 testimony concerning the accuracy of the sound
12 pressure levels for these various sources in this
13 case, it could have used Mr. Old for that purpose
14 because Mr. Old is an acoustic expert. But they
15 didn't do that. Instead, they have a witness who
16 doesn't have any expertise in acoustics or the
17 measurements of acoustics render these opinions.

18 With regard to page 9, lines 4 through
19 24, again we have an opinion concerning -- here we
20 have an opinion concerning the quality of sounds as
21 to whether wind turbine sounds are similar to sounds
22 generated by other activities. That, again, is
23 particularly within the sole expertise of an
24 acoustics expert, not an epidemiologist.

25 So this information is well beyond the

1 expertise of this witness to express and is
2 prejudicial to us because there's no -- there's no
3 way to cross-examine in a meaningful fashion this
4 testimony -- the witness on this testimony since the
5 witness doesn't know anything about the subject
6 matter other than what he's read from acoustics
7 engineers; so we would maintain that all the
8 testimony we move to strike should be struck.

9 MS. AKHBARI: Your Honors, can I
10 interject with two more short points if I may?

11 ALJ AGRANOFF: Certainly.

12 MS. AKHBARI: Thank you.

13 So Mr. Van Kley has represented that
14 Dr. Mundt is taking opinions as it relates to sound
15 pressure levels or presenting opinions. We would
16 consider that he is not doing that. He's simply
17 placing, in context, the background information
18 necessary.

19 This is part of the challenge of being an
20 epidemiologist. You have to marry various fields to
21 the notion of impacts upon human health and,
22 oftentimes, as Dr. Mundt stated in response to voir
23 dire, he's dealing with technical-underlying
24 information and marrying that to the science of
25 epidemiology and that's what you see in Questions 32,

1 33, and 34.

2 As to Question 35, the studies referenced
3 in Question 35 are all epidemiological studies
4 actually that are placing these sound pressure levels
5 in context. Each of those studies is well within
6 Dr. Mundt's wheelhouse, the journals he publishes and
7 the journals he stays apprized of.

8 Questions 32, 33, and 34 are simply
9 building up the appropriate background level to
10 present context to the Board and anyone reading this
11 testimony regarding the eventual discussion of these
12 epidemiological studies that are represented; there's
13 four of them in Question 35.

14 ALJ AGRANOFF: I'd like to hear a little
15 bit more about the witness's experience relative to
16 his research for acoustics and epidemiology so I have
17 a context as to what your background is and what your
18 experience is that makes you an expert.

19 THE WITNESS: I would like to reiterate
20 my expertise is in epidemiology. The measurement of
21 sound is not my area of expertise; although, I've
22 been engaged in occupational settings and projects
23 where noise measurements were undertaken and
24 epidemiological surveillance of workers in
25 hearing-protection programs was developed.

1 As an epidemiologist, I am dependent on
2 the experts for measuring any of the exposure
3 phenomena I study, be it radiation, I've never taken
4 a radiation sample in my life; industrial hygiene,
5 I've studied hundreds of different chemical
6 exposures, mineral dusts, I've never monitored a
7 single mineral in my life; nor have I performed
8 acoustical measurements so I'm entirely dependent on
9 them.

10 And as Ms. Akhbari stated, these
11 paragraphs in this section really are contextual.
12 They're cited on public websites. One is
13 nonoise.com. It's a noise awareness, anti-noise
14 website that I thought would provide at least
15 conservative estimates but I have no basis to verify
16 them. That said, I also formulate no opinions on
17 that material so I think that needs to be corrected.
18 It's completely background or contextual and from
19 which I don't -- I derive no opinions.

20 ALJ AGRANOFF: And then you would
21 represent that your expertise relative to this
22 subject matter is in what capacity?

23 THE WITNESS: Well, if I'm asked the
24 question, what is the epidemiological evidence for
25 wind turbine noise for causing human health problems,

1 an obvious first question for me, the epidemiologist,
2 is what levels are these noises and how do they
3 compare with other noises around us so that my
4 understanding of the world as a scientist and as a
5 participant, a layperson, can be harmonized. And I,
6 as a scientist, ultimately have to communicate to a
7 lay proceeding, in this case a hearing, what I
8 understand as a scientist, bridging it to what one
9 can understand as a layperson, a general human being.

10 I'm not questioning those measurements.
11 I don't even rely on them for any my opinions but
12 rather say what we're talking about here so we can
13 understand what the epidemiology says, which is
14 people exposed to wind turbine noise --

15 ALJ AGRANOFF: I'm not asking you to tell
16 me what your testimony says.

17 THE WITNESS: All right.

18 ALJ AGRANOFF: I still want to just hear
19 about what your expertise is and what you bring to
20 the analysis based on your experience.

21 THE WITNESS: I'll reiterate my expertise
22 and my opinions here today will not address the
23 measurement of sound of wind turbines or other
24 things. I assume that in all of the published papers
25 where sound measurements were made that those are

1 indeed accurate. I don't have the background or
2 basis for challenging them. And from that starting
3 point, I look at the methodologies used to understand
4 human health effects and I generate opinions based on
5 that. That is the epidemiology.

6 MS. AKHBARI: Your Honors, I would also
7 note that, you know, the materials cited here by
8 Dr. Mundt in his testimony are available from NIH,
9 National Research Council, they're all
10 publicly-available information that anyone can
11 access.

12 ALJ AGRANOFF: Have you -- have you
13 testified in other similar proceedings with respect
14 to wind turbine cases?

15 THE WITNESS: Yes, Your Honor, and those
16 are identified in one of the attachments to my
17 testimony.

18 ALJ AGRANOFF: Okay. And have you
19 testified in any proceedings before this Board?

20 THE WITNESS: Yes, twice. Two Buckeye
21 projects.

22 ALJ AGRANOFF: Okay.

23 ALJ SANYAL: Ms. Akhbari, were you going
24 to point us to the attachment?

25 MS. AKHBARI: Yes.

1 ALJ AGRANOFF: Okay. At this point in
2 time, I'm going to deny the motions to strike and,
3 Mr. Van Kley, you're certainly free to cross-examine
4 the witness.

5 MR. VAN KLEY: All right, Your Honor.

6 - - -

7 CROSS-EXAMINATION

8 By Mr. Van Kley:

9 Q. Mr. Mundt, you're not a medical doctor,
10 correct?

11 A. That's correct. My Doctorate, as is my
12 Master's degree, are in epidemiology.

13 Q. And you do not have a medical degree,
14 correct?

15 MS. AKHBARI: Objection. Asked and
16 answered.

17 A. I have a Ph.D. and an M.S. in
18 epidemiology.

19 Q. Okay. You have no training in acoustics?

20 A. I have no formal training in acoustics.

21 Q. You're not an acoustic engineer?

22 A. That's correct.

23 Q. You're not an engineer of any sort?

24 A. That's correct.

25 Q. With regard to your testimony, pages 16

1 and 17, if you would turn to those pages, I have some
2 questions about them. Let's talk about Table 1 in
3 Answer 32 on page 16 of your testimony. Table 1 has
4 some examples of sound comparisons, correct?

5 A. Yes, sir.

6 Q. Okay. So for example it is stated in
7 Table 1 that a forced hot air heating system has a
8 sound pressure level in dBA ranging between 42 and 52
9 dBA, correct?

10 A. Yes, that's what it says.

11 Q. Okay. Now, you're not expressing an
12 expert opinion that 42 to 52 dBA is the actual sound
13 pressure level for the forced hot air heating system,
14 are you? You're not expressing an expert opinion in
15 that regard?

16 A. That's correct, I'm not providing any
17 opinions on these sound measures. I'm not an expert
18 in sound measurement.

19 Q. Okay. So the same would be true with
20 regard to all of the example sound comparisons in
21 Table 1?

22 A. I'm not challenging them.

23 Q. Well, you're not challenging but you're
24 also not expressing an expert opinion that these
25 sound pressure levels are accurate as set forth in

1 Table 1, are you?

2 A. I think that's consistent with not
3 challenging them.

4 Q. Well, I'm asking you whether you're
5 saying they are accurate.

6 A. I'm not either way. I'm representing
7 that these are commonly-found published ranges into
8 which I've placed the line with respect to the wind
9 farm.

10 Q. Okay. And with regard to Table 2 on
11 page 17 of your testimony, again we have some
12 examples of types of sound in decibel levels
13 associated with each of those types of sound; is that
14 correct?

15 A. That's correct, that's a very similar
16 table, this one from the NIH.

17 Q. Okay. And with respect to the
18 information in Table 2, are you not expressing an
19 expert opinion that any of the information in Table 2
20 is accurate?

21 A. I would say I take it as accurate from
22 the government website, the National Institute on
23 Deafness and Other Communication Disorders. I'm not
24 technically challenging the decibel level ranges that
25 are presented here.

1 Q. And you're not expressing an expert
2 opinion that the decibel level ranges in Table 2 are
3 accurate either, correct?

4 A. That's correct. I present this table, as
5 I did Table 1, as background to understand what
6 roughly the range of sounds we're talking about with
7 respect to wind farms.

8 Q. Have you ever interviewed a person who
9 was alleged or -- have you ever interviewed a person
10 who alleged that he or she was suffering illness from
11 exposure to wind turbine noise?

12 A. No.

13 Q. Over the course of your career,
14 approximately how many cases have you testified in?

15 A. Can you be more specific?

16 Q. Well, I'm not sure how I could be, but
17 let me try.

18 A. What type of case?

19 Q. Well --

20 A. What type of court?

21 Q. Lawsuits or administrative hearings.

22 A. With respect to any alleged exposure and
23 any alleged outcome?

24 Q. Yes.

25 A. Dozens. I don't know the number. In

1 most of them in deposition. I've only testified
2 before live proceedings probably 15 times.

3 Q. Do you regularly provide expert opinions
4 to clients with regard to epidemiology issues?

5 A. That's vague. Can you make it more
6 precise or restate it?

7 Q. Well, I assume that you have other duties
8 or other business activities besides testifying in
9 court; that you also assist clients with regard to
10 epidemiology issues. Is that accurate?

11 A. Yes, I perform a wide range of
12 epidemiological services.

13 Q. In the course of those services, do you
14 provide the clients with expert opinions on the
15 relationship between potential causes and health
16 affects?

17 A. I do. Specific to litigation, where that
18 seems to be the question or request, is whether or
19 not in my expert opinion some exposure or risk factor
20 can and has caused an individual's or group of
21 people's health problems.

22 Outside of litigation, I do a lot of
23 scientific research, critical reviews, synthesis of
24 evidence, publication, and communication of the
25 science in which there's no real opinions involved.

1 Q. Okay. How many epidemiological opinions
2 would you estimate you have prepared over the course
3 of your career?

4 A. It's not possible to enumerate. My
5 opinions across several matters, including those
6 pertaining to wind turbines, is the same opinion. So
7 I don't know whether you're talking about episodes of
8 opinions or the absolute number of opinions. I would
9 say this is maybe my 15th time expressing my opinion
10 on wind turbines in such a setting.

11 Q. I was referring to the number of times
12 that you have expressed epidemiological opinions as
13 opposed to trying to break it down by type. Can you
14 give me an estimate?

15 A. As opposed to conducting primary science
16 and publications and scholarship, those activities?

17 Q. Yes.

18 A. I would say there's a strong concordance
19 with the number of times I've testified. In fact, I
20 wouldn't testify if I didn't have a scientific
21 opinion in a litigation matter.

22 Q. In any of the cases in which you've
23 testified, have you expressed an opinion that a
24 particular source or a particular factor had or did
25 cause a health effect?

1 A. Again that's very vague and broad. I
2 would say in most of my litigation work, the agents
3 are either actual exposures or alleged exposure that
4 can in fact, under some circumstances, cause harm. I
5 would say the question becomes, more importantly, at
6 what levels is harm -- does harm occur.

7 Q. In any of those cases have you -- well,
8 let me back up.

9 In all of those cases, have you testified
10 on behalf of the client who was accused of being
11 responsible for agents that resulted in the exposures
12 that resulted in the alleged health problems?

13 A. Not exclusively but primarily, yes.

14 Q. What percentage of the time approximately
15 have you represented the persons who are being
16 accused?

17 A. Well, first of all, I think you may have
18 misstated. I don't think there's any situations in
19 which there were persons accused. I would say rather
20 there are entities, usually corporations, that are
21 allegedly responsible for some exposure and I would
22 add some alleged exposure because sometimes there is
23 no such exposure. So fortunately this is what
24 happens in some of the litigation I'm involved with
25 is to help the court understand whether or not

1 exposure might have occurred and, if it did, at a
2 level consistent with inducing harm based on
3 epidemiological evidence.

4 Q. Okay. So to rephrase my question then,
5 for approximately what percentage of the cases in
6 which you've testified have you testified on behalf
7 of the company that has been accused of the
8 exposure -- exposures alleged to cause the health
9 effects?

10 A. Thank you. It's a large majority; more
11 than 90 percent.

12 Q. Have you ever expressed or have you ever
13 testified to an opinion related to the relationship
14 between agents and alleged health effects in which
15 later, in retrospect, you believed were inaccurate?

16 MS. AKHBARI: I'm going to object to the
17 relevance of that line of questioning.

18 ALJ AGRANOFF: Mr. Van Kley.

19 MR. VAN KLEY: Well, it's entirely
20 relevant because he's expressing an opinion here, and
21 I want to know whether just because he expresses an
22 opinion, whether every time he believes he's right or
23 whether sometimes epidemiological opinions are proved
24 later to be inaccurate.

25 ALJ AGRANOFF: I'll allow the question.

1 THE WITNESS: Shall I answer the last
2 question?

3 ALJ AGRANOFF: Yes.

4 THE WITNESS: I understand a part, I
5 think, of what you're saying. Science evolves and in
6 testimony I'm under oath to present the court with
7 the truth as I see it and that's the scientific
8 truth. Does that mean that tomorrow there might be a
9 raft of new studies with improved methodologies that
10 modify the body of evidence on a particular topic?
11 Of course, that happens.

12 So therefore, though I testify repeatedly
13 in related matters, each and every time I do so, I
14 reevaluate the literature and update it and see
15 whether anything in the last time since I testified
16 on a particular topic there's something published
17 that would meaningfully change my opinions.

18 As to the first part of your question, I
19 don't recall any situation where I came to a contrary
20 conclusion after having testified to something
21 earlier unless it reflects the evolution of the
22 science that I review on an ongoing basis.

23 Q. (By Mr. Van Kley) Well, in that regard,
24 in the past you have testified on behalf of tobacco
25 companies with respect to whether or not their

1 tobacco products caused health effects; is that
2 correct?

3 MS. AKHBARI: I'm going to object again,
4 Your Honor. We're here to talk about wind turbines.
5 I don't know why we're talking about tobacco.

6 MR. VAN KLEY: Because it shows,
7 depending on how he answers this question, it shows
8 that epidemiology can be an uncertain science and
9 just because he's expressing an opinion about the
10 relationship between wind turbine noise and health
11 effects doesn't necessarily mean it is so. There is
12 always some uncertainty about whether or not an
13 epidemiological opinion is accurate or is later
14 proven to be inaccurate.

15 MS. AKHBARI: Again, Dr. Mundt himself
16 just said each time he goes to give an opinion, he
17 updates the literature, he looks through whatever
18 developments have been made in the science and he's
19 testifying as to the most current present knowledge.
20 Again, tobacco studies from the '70s, I'm just
21 failing to see the relevance.

22 MR. VAN KLEY: Well, it also has
23 relevance to the witness's credibility. The witness
24 has just stated that he can't recall issuing any
25 opinions in a legal case that have been later proven

1 to be wrong and so I'm exploring that statement
2 because I think perhaps he has expressed some
3 opinions that have turned out to be inaccurate.

4 ALJ AGRANOFF: I will allow a limited
5 scope of that additional line of questioning.

6 MR. VAN KLEY: Okay.

7 THE WITNESS: Thank you. I do appreciate
8 your acknowledgment that there are uncertainties
9 surrounding epidemiological research and science. I
10 would add that that's the best we have in determining
11 what causes disease. There is no proof. We cannot
12 prove disease causation with the exception maybe of
13 something so obvious as a gunshot injury that leads
14 to perhaps even death. It doesn't need an
15 epidemiologist to study that situation.

16 But with complex chronic diseases, common
17 diseases with millions of risk factors and exposures,
18 there is no other science that can deliver an
19 objective, scientific, methodologic approach to
20 determining causation than epidemiology with its
21 warts and its uncertainties, but that's why we have
22 confidence intervals, that's why we evaluate the
23 totality of the evidence and not pick one or another
24 piece of evidence and we make an educated and
25 reasonable causal conclusion that can never be proven

1 but is the best that we have at any point in time.

2 Q. (By Mr. Van Kley) All right. Well,
3 that's a helpful statement but we need to go back to
4 my question which is have you, in the past, expressed
5 epidemiological opinions on behalf of tobacco
6 companies in which you opined that their tobacco
7 products did not cause health effects?

8 A. I honestly can't imagine that because
9 tobacco products have been known, before I was even
10 schooled, to be harmful to human health so I cannot
11 imagine that. I think you, again, generally and
12 quite broadly misrepresent the kinds of testimony
13 that I have provided in tobacco litigation which is
14 pretty technical. And I must say I'm perhaps one of
15 the few, if any, only epidemiologists that has, on
16 behalf of tobacco clients, testified that cigarette
17 smoking causes some 20-something cancers.

18 Q. Have there been any instances in which
19 you have expressed opinions that your clients'
20 tobacco products did not cause the health effects
21 that they were being accused of causing?

22 A. I think there was one matter in which I
23 was asked to evaluate epidemiologically whether a
24 specific type of lung cancer was associated with
25 smoking. By the way, the four major categories of

1 lung cancer clearly are. This was a very rare BAC,
2 broncho-alveolar carcinoma, where I believe the
3 epidemiological literature was not clear that it was
4 causally associated with cigarette smoking.

5 Q. With the passage of time, do you hold to
6 the same opinion today?

7 A. Which one?

8 Q. The one you just mentioned.

9 MS. AKHBARI: Again, Your Honor, I'm
10 going to have to object on the grounds of relevance.
11 We're discussing cigarette smoke and I don't know how
12 long ago this took place.

13 MR. VAN KLEY: Well, this is my last
14 question, provided that he answers it. I simply want
15 to know whether he has, since rendering that
16 testimony, discovered, based on the passage of time
17 and advanced scientific knowledge, that his opinion
18 was inaccurate. It goes to his credibility.

19 ALJ AGRANOFF: I'll allow the question.

20 THE WITNESS: Well, again, I would be
21 scientifically remiss if I didn't update my research
22 on that topic. Since that was a relatively rare
23 cancer, I have not had the opportunity to look at it
24 any time in the last 20 years, so there is a good
25 chance there's more evidence and I'm not going to

1 speculate as to what it would say.

2 ALJ AGRANOFF: Mr. Van Kley, at this
3 point I would recommend you start to get back into
4 the subject matter we're here for today.

5 MR. VAN KLEY: Yeah. As I indicated,
6 that was my last question on that line of
7 questioning.

8 Q. (By Mr. Van Kley) In each of the cases,
9 that is lawsuits or administrative hearings in which
10 you've rendered an epidemiological opinion, has there
11 been another epidemiologist who has expressed a
12 contrary opinion?

13 ALJ AGRANOFF: With respect to wind
14 turbines?

15 MR. VAN KLEY: No. With respect to his
16 opinions on issues in those cases.

17 THE WITNESS: Thank you for clarifying
18 because I'd be hard pressed to find a colleague that
19 would have particularly different opinions from mine
20 on the epidemiology in this type of matter.

21 MR. VAN KLEY: Your Honor, I would move
22 to strike that as being nonresponsive.

23 THE WITNESS: It was in answer to your
24 question before it was clarified.

25 MR. VAN KLEY: Well, no, it wasn't. It

1 wasn't.

2 ALJ AGRANOFF: Hold on. I'm going to
3 grant the motion to strike and please ask the
4 question again.

5 MR. VAN KLEY: Okay.

6 Q. (By Mr. Van Kley) In those lawsuits or
7 administrative hearings in which you have expressed
8 an epidemiological opinion, has there been an
9 opposing expert in epidemiology who has expressed an
10 opposing opinion?

11 A. Yes. And in particular in litigation
12 matters where my understanding is, say in toxic tort
13 litigation, it is the plaintiff's responsibility to
14 make a case for an association which is then, in
15 representing defendant's, my responsibility to
16 validate whether this aligns with the scientific
17 evidence or not and, if it does not, then I testify
18 to that effect.

19 MR. VAN KLEY: Okay. Your Honor, at this
20 time I would like to have premarked LR Exhibit 6
21 placed before the witness. I believe at the court
22 reporter's table you'll find that. I can approach
23 the witness to provide that document.

24 ALJ AGRANOFF: If you wish.

25 MR. VAN KLEY: This is "Night Noise

1 Guidelines for Europe," 2009.

2 Q. (By Mr. Van Kley) I've handed you what
3 has been marked as LR Exhibit No. 6 which is entitled
4 "Night Noise Guidelines for Europe" and you'll see
5 that the date on this publication is 2009. Are you
6 familiar with this document?

7 A. Yes.

8 Q. Okay. This is a -- a report by the World
9 Health Organization, correct?

10 A. Published by the World Health
11 Organization. The World Health Organization is a
12 large entity. I imagine it's produced by a staff of
13 WHO or contractors to WHO.

14 Q. To your knowledge does the WHO utilize
15 the services of experts to put together reports of
16 this nature?

17 A. Yes. And if you note Roman numeral
18 page VIII, there are dozens of contributors to this
19 volume.

20 Q. Let's look at the Executive Summary for
21 this document. Specifically I would like to refer
22 you to Roman numeral XII. Please tell me when you
23 found that page.

24 A. "Thresholds for Observed Effects"?

25 Q. No. I'm in the Executive Summary, Roman

1 numeral XII.

2 MS. AKHBARI: It's the page before that
3 one. "Vulnerable Groups."

4 THE WITNESS: Thank you. I misread the
5 Roman numeral.

6 Q. (By Mr. Van Kley) All right. Referring
7 you to the third paragraph which is also the first
8 bullet point on that page, there's a statement as
9 follows: "Sleep is a biological necessity and
10 disturbed sleep is associated with a number of
11 adverse impacts on health." Do you see that?

12 A. Yes.

13 Q. Do you agree with that statement?

14 A. I have no reason to disagree with that
15 statement.

16 Q. Now let's go to the next page of the
17 Executive Summary which is page Roman numeral XIII.
18 This page is entitled "Thresholds for Observed
19 Effects." And you'll see a table in the middle of
20 that page, correct?

21 A. Yes.

22 Q. And that table spills over into the next
23 page of the document as well, correct?

24 A. Yes.

25 Q. This is table -- okay. So with regard to

1 the information in this table, do you see where
2 there's a line that states "Waking up in the night
3 and/or too early in the morning," do you see that?

4 A. I see, yes, in the second column about
5 the fifth entry.

6 Q. And you'll see that the threshold for
7 that effect is stated to be 42 decibels?

8 A. Yes, that's what it says.

9 Q. And then under that there's an entry that
10 says "Prolongation of the sleep inception period,
11 difficulty getting to sleep." Do you see that?

12 A. I do.

13 Q. And the threshold for that is also 42
14 decibels?

15 A. I don't know. There's an asterisk and I
16 don't understand the statement associated with the
17 asterisk.

18 Q. Okay. A couple of entries below that
19 you'll see an entry for "Increased average motility
20 when sleeping." Do you see that?

21 A. I do.

22 Q. Do you know what motility is?

23 A. I do.

24 Q. What is it?

25 A. Movement.

1 Q. And the threshold for that is stated to
2 be 42 decibels?

3 A. Yes, that's what it says.

4 Q. Under that we have an entry for
5 "Self-reported sleep disturbance." Do you see that?

6 A. I do.

7 Q. And the decibel threshold for that is
8 stated to be 42?

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

10 Q. Under that we have "Use of somnifacient
11 drugs and sedatives" and the threshold for that is
12 stated to be 40 decibels, correct?

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

14 Q. And under that we have an entry for
15 "Environmental insomnia" and the decibel level --
16 decibel threshold for that is stated to be 42
17 decibels. Do you see that?

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

19 Q. If you go to the next page, do you see an
20 entry for "Complaints"? About halfway down the table
21 on that page.

22 A. Yes.

23 Q. And do you see that the estimated
24 threshold for that is 35 decibels?

25 A. Yes, that's what it says.

1 Q. With regard to the effects that I have
2 just read to you, do you regard those as being health
3 effects?

4 A. Not necessarily.

5 Q. Why not?

6 A. We all experience all of these at some
7 point in time and it's very difficult to determine
8 where a normal reaction to something, a siren going
9 by, an awakening, an odor, a thought, a disturbing
10 thought, whether those reactions have anything to do
11 with health effects or health damage or disease which
12 I define more as an alteration of a structure or
13 function of an organ or system that can impair
14 someone's ability to perform or function at the level
15 they were prior to that.

16 Some of these, as I think you indicated,
17 could lead to additional problems but in and of
18 themselves it's difficult to say that these are
19 diseases or health effects. An effect implies a
20 cause, so I didn't even care to use that terminology.

21 Q. Going back to Roman numeral page -- page
22 Roman numeral XIII.

23 A. May I interrupt you? I just want to add
24 one more comment to my previous answer.

25 Q. Yeah, go ahead.

1 A. I noticed in the beginning of this
2 section these are not thresholds as we know from
3 toxicology and they define the contrast between what
4 they are identifying here as thresholds and they say
5 "the observed effect thresholds are provided: the
6 level above which an effect starts to occur or shows
7 itself to be dependent on the exposure level."

8 So I understand these thresholds to be
9 levels, below which you might not expect to see these
10 things occurring, and at levels increasingly above,
11 you would. That contributes to my notion of this
12 continuum. They're trying to isolate a part where
13 you just don't see any of these things.

14 Q. Okay. So with regard to your references
15 in your testimony concerning health effects, are the
16 effects listed or -- let me start over.

17 In your testimony you've made some
18 statements that you do not believe there is evidence
19 to show that wind turbine noise causes health
20 effects, right?

21 A. Close. I'm not critiquing your
22 phraseology but I will say someone will always point
23 to some evidence; so I think the way you phrased it
24 might leave us open to this cherrypicking notion that
25 you can find a study that says something.

1 But my opinion is, looking at the 68
2 studies that I reviewed for quality of study and
3 synthesizing the results from that body of evidence,
4 yes, it is my opinion that wind turbine noise, as
5 studied, up to and including 46-decibel-at-night
6 average, does not -- is not associated with any
7 identifiable health effect.

8 Q. And when you expressed those opinions,
9 you were not talking about the types of effects that
10 you see in the WHO report on pages Roman numeral XIII
11 and XIV that are set forth on those tables, correct?

12 A. No. I can agree with you as far as the
13 ones you identified, but I would say myocardial
14 infarction is very much a disease and psychic
15 disorders are very much diseases and several in that
16 second half of the table.

17 Q. So with respect to the effects that I
18 read to you during your testimony, because you don't
19 regard those effects as being health effects, you did
20 not intend your testimony to address these effects.

21 A. Maybe I could be clearer. I don't
22 consider these to reflect harm to health. These are
23 responses to stimuli. We respond various ways to
24 different stimuli and to different extent. These are
25 not diagnosable diseases; that is, the ones that

1 you've identified.

2 Q. Okay. And you're not expressing an
3 expert opinion with regard to the types of effects
4 that I read to you out of the WHO report?

5 A. I think I am. I'm saying that these do
6 not constitute harm to human health.

7 Q. Okay. Maybe we need to go back to my
8 first question in this line of questioning. In your
9 testimony you testified that you do not believe
10 there's a relationship between wind turbine noise and
11 adverse health effects. Did I state that correctly?

12 A. Close. I'm saying the epidemiological
13 evidence that we have in hand as of this day, 2019,
14 does not support that conclusion using standard
15 methods for critically evaluating and synthesizing a
16 body of evidence.

17 Q. Okay. And with respect to the opinion
18 that you just enunciated, you are not intending to
19 express that opinion with regard to the types of
20 effects that I read to you out of the WHO report.

21 A. I think that's correct and maybe where we
22 could agree more fully is with respect to complaints
23 which are subjective reports of individuals' feelings
24 or perceptions but may not be measurable changes in
25 anything physiologically.

1 Q. But you have no reason to dispute that
2 complaints start at a level of 35 dBA, right?

3 A. I think complaints start at zero. Human
4 nature is to complain, and the probability of
5 complaints is certainly going to increase with one's
6 ability to perceive and be annoyed by any stimulus.

7 Q. Okay. But complaints are not a health
8 effect, right?

9 A. Correct. Well, complaints as in -- well,
10 they don't define it, unfortunately. You certainly
11 can complain about a serious illness. I'm not
12 including that. I would say if this is equated with
13 annoyance, then I think we would agree.

14 MR. VAN KLEY: Okay. Very good. I have
15 no further questions.

16 ALJ AGRANOFF: Any of the other
17 Intervenors have questions of this witness?

18 MS. BAIR: I have none.

19 MR. DeVINE: No.

20 ALJ AGRANOFF: Redirect?

21 MS. AKHBARI: Your Honor, could we take a
22 minute?

23 ALJ AGRANOFF: Why don't we take a
24 10-minute break.

25 (Recess taken.)

1 ALJ AGRANOFF: Okay. Why don't we go
2 back on the record.

3 At this time will there be any redirect?

4 MS. AKHBARI: No, Your Honor. We rest.

5 ALJ AGRANOFF: Thank you.

6 - - -

7 EXAMINATION

8 By ALJ Agranoff:

9 Q. You had testified earlier about human
10 health affecting. Did I understand correctly that
11 you are considering that to be an event that would
12 either cause organ effecting in some capacity or some
13 other component that would constitute health
14 effecting?

15 A. Yes, it may not be at the organ level.
16 It could be at the cellular or tissue level but
17 there's some damage to or compromise of its structure
18 or function. With respect to mental health, it may
19 not be structural but rather impacting functionality.

20 Q. And in terms of either of those two
21 conditions, does interval of time come into play for
22 the purposes of constituting whether something is
23 health effecting?

24 A. Yes, I think for some reactions, whether
25 they're reflective of any level of damage to health

1 or not, some may occur very acutely on a short-term
2 basis and may result in damage. There are
3 loud-enough sounds that can impair hearing. There
4 are bursts of exposure to chemicals that themselves
5 can inflict damage, but if the same amount of
6 chemicals were administered over several hours, it
7 would not have that same impact on the tissue of the
8 human.

9 Q. But in terms of the actual adverse
10 effects, does that condition have to be permanent or
11 last for a certain period of time in order for it to
12 constitute health effecting?

13 A. That's a really good question. Obviously
14 we all suffer from some diseases that are -- from
15 which we recover and, unfortunately, many of us
16 suffer from diseases that are progressive and from
17 which we won't recover so it depends, first of all,
18 whether the stimulus or the exposure, the cause, can
19 initiate the disease process or needs to stay around
20 to propagate the disease response.

21 Q. If you could turn to page 11 of your
22 testimony. Let me know when you're there.

23 A. I have it.

24 Q. Okay. And in the answer to Question 22,
25 you indicate that the Health Canada Study

1 demonstrates no clear or consistent association
2 between wind turbine noise and any health effect.
3 What constitutes "clear and consistent association"?

4 A. Well, I don't think it even approaches
5 the idea of sporadic associations, but in
6 epidemiology we look toward a body of evidence to see
7 that there's a trend or a tendency across studies.

8 In determining causation, we want to see
9 studies conducted in different settings with
10 different methodologies and different populations
11 come to a similar conclusion with some variability of
12 course. So I'd say there's no such consistency and
13 in fact there's a lack of actual health effects
14 observed with respect to wind turbine noise in the
15 Health Canada Study as depicted in nine publications
16 from that study, all fairly recent.

17 Q. And when you say "fairly recent," what
18 time frame is that?

19 A. Since 2015.

20 ALJ AGRANOFF: Based on my limited
21 questions, is there any follow-up?

22 MS. AKHBARI: None from the Company, Your
23 Honor.

24 ALJ AGRANOFF: Mr. Van Kley?

25 MR. VAN KLEY: No.

1 ALJ AGRANOFF: Any other questions?

2 Thank you, sir

3 MS. AKHBARI: Your Honors, we'd move for
4 admission of Company's Exhibit 19 at this time, which
5 would represent Dr. Mundt's testimony and the
6 exhibits appended thereto.

7 ALJ AGRANOFF: Any objection?

8 MR. VAN KLEY: Your Honor, we -- we would
9 preserve our objections to Exhibit KM-2, I think it
10 was to the testimony, otherwise we have no objection.

11 ALJ AGRANOFF: Any other counsel care to
12 to comment?

13 MS. BAIR: No.

14 ALJ AGRANOFF: If not, Applicant Exhibit
15 19 shall be admitted as part of the record at this
16 time.

17 (EXHIBIT ADMITTED INTO EVIDENCE.)

18 ALJ AGRANOFF: Does Applicant have their
19 next witness prepared?

20 MR. PARRAM: Yes, Your Honor. We'll call
21 Chris Leftwich to the stand.

22 ALJ AGRANOFF: Please come forward.

23 Please raise your right hand.

24 (Witness sworn.)

25 ALJ AGRANOFF: Whenever counsel is ready.

1 MS. FLINT: I'm making an appearance. My
2 name is Jennifer Flint, Bricker & Eckler. I'm here
3 on behalf of the Applicant.

4 ALJ AGRANOFF: And if you could please
5 give your address.

6 MS. FLINT: 100 South Third Street,
7 Columbus, Ohio, 43215.

8 ALJ AGRANOFF: Thank you. Please
9 proceed.

10 - - -

11 CHRIS LEFTWICH

12 being first duly sworn, as prescribed by law, was
13 examined and testified as follows:

14 DIRECT EXAMINATION

15 By Ms. Flint:

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

18 A. Sure. Christopher Alden Leftwich.

19 Q. You are being handed a document marked
20 Applicant Exhibit 20, I believe. 20.

21 ALJ AGRANOFF: That's the next number on
22 our list.

23 MS. FLINT: Thank you.

24 (EXHIBIT MARKED FOR IDENTIFICATION.)

25 Q. If you can take a look at Exhibit 20. Do

1 you recognize that document?

2 A. I do.

3 Q. What is Exhibit 20?

4 A. It is my written Direct Testimony.

5 Q. Do you have any corrections to Exhibit
6 20?

7 A. No.

8 MS. FLINT: Your Honors, I move for
9 admission of Exhibit 20, pending cross-examination,
10 and I tender Mr. Leftwich for any cross-examination.

11 ALJ AGRANOFF: Thank you.

12 Mr. Van Kley.

13 MR. VAN KLEY: Thank you, Your Honor.

14 - - -

15 CROSS-EXAMINATION

16 By Mr. Van Kley:

17 Q. You are here to testify about bats,
18 correct?

19 A. Yes.

20 Q. Are bats important to the environment?

21 A. Yes.

22 Q. What importance do they have to the
23 environment?

24 A. Well, they're part of the ecosystem.
25 They are predators of insects. So if you want to put

1 it in terms of human benefits, it's usually looked as
2 insect predators.

3 Q. Okay. With respect to eating insects,
4 how does that benefit humans?

5 A. Probably the easiest way to attribute it
6 to human benefits is pest control.

7 Q. Those pests being insects that the bats
8 eat?

9 A. Correct.

10 Q. That's important to the farmers, correct?

11 A. It's -- I've read documents that say yes.

12 Q. In fact, the bats eat some of the insects
13 that otherwise would be eating the farmers' crops,
14 correct?

15 A. Yes.

16 Q. Have you seen any estimates as to the
17 dollar value that a population of bats --

18 MS. FLINT: Objection.

19 Q. -- will provide --

20 ALJ AGRANOFF: One moment. Go ahead.

21 MS. FLINT: Objection. This is not
22 relevant to the purpose of this testimony.

23 MR. VAN KLEY: I haven't even finished
24 the question yet.

25 ALJ AGRANOFF: Go ahead and proceed with

1 your question.

2 MR. VAN KLEY: Okay.

3 Q. (By Mr. Van Kley) Have you seen any
4 estimates as to -- any estimates that put a dollar
5 value on the benefits to farmers by virtue of the
6 fact that the bats were eating insects that otherwise
7 would eat the farmers' crops?

8 A. Yes.

9 MS. FLINT: Objection. This is not
10 relevant to Mr. Leftwich's testimony.

11 MR. VAN KLEY: Well, I'm not limited to
12 the confines of Mr. Leftwich's testimony. I'm only
13 limited to the boundaries of what's relevant to the
14 case and this case involves economics to a very large
15 degree.

16 The Applicant has filed an entire report
17 on the economic benefits of the project and this is
18 relevant to that information because it shows that
19 there may be an economic detriment from the turbines
20 if bats are destroyed that otherwise would aid the
21 farmers.

22 Plus, it's relevant to the factors in
23 Revised Code 4906.10 which state that the Board is
24 to -- is to weigh the impacts on humans and the
25 environment from the action that's being considered

1 in the Application.

2 MS. FLINT: Your Honors, my objection
3 relates to the fact that there was already -- the
4 Applicant already submitted a witness on economics.
5 It was June Rice --

6 MR. PARRAM: Jane.

7 MS. FLINT: -- Jane Rice who testified
8 yesterday.

9 Mr. Leftwich's written Direct Testimony
10 also states, in response to Question No. 5, what the
11 purpose of his testimony is and it does not relate to
12 economics in relation to bats.

13 MR. VAN KLEY: Well, Your Honor, I'm not
14 limited to the scope of Mr. Leftwich's Direct
15 Testimony. I've never heard an objection of that
16 nature ever upheld before in any proceeding I've been
17 involved with.

18 With regard to the objection that
19 Ms. Rice was here to testify about economics,
20 Ms. Rice also testified she didn't look at the
21 negative economic effects of the project, she only
22 looked at the positive effects, and this is a witness
23 that knows the subject matter, he knows that bats
24 benefit not only the environment but they benefit the
25 economic welfare of the farmers in the area and it's

1 directly relevant to this case.

2 MS. FLINT: I'd object to that iteration
3 of Mr. Leftwich -- Mr. Leftwich's knowledge.

4 ALJ AGRANOFF: At this point in time,
5 Mr. Van Kley, if you could first lay a foundation as
6 to this witness's studies with respect to the bats
7 and any adverse impact that that may result in and
8 then we'll go from there.

9 MR. VAN KLEY: Okay.

10 Q. (By Mr. Van Kley) Wind turbines can kill
11 bats, correct?

12 A. Yes.

13 Q. Okay. How does that happen?

14 A. It's a couple different ways. One is
15 direct collision and there's also another aspect
16 called barotrauma which I'm not super, you know, an
17 expert on, that has to do with pressure changes that
18 are potentially killing bats.

19 Q. By barotrauma you generally mean of the
20 air pressure inside the bat basically explodes the
21 bat?

22 A. I don't know about exploding but my
23 knowledge is that barotrauma is thought to be a cause
24 of bat deaths.

25 Q. Do you know what barotrauma is?

1 A. Changes in pressure associated with the
2 turbines and having an additional effect on, I'm
3 assuming, the bats' lungs.

4 Q. It's pressure that build up inside the
5 bat?

6 A. I don't know. I don't know a lot about
7 it.

8 Q. So when a bat strikes a turbine, what
9 physically happens to the bat?

10 A. I'm not sure how to answer that.

11 Q. Well, does it cause internal injuries to
12 the bat?

13 A. I don't know.

14 Q. Do bats pollinate plants?

15 A. There are pollinators; some, yes.

16 Q. Are there species of bats in Ohio that
17 pollinate plants?

18 A. I'm not sure.

19 Q. Do bats eat mosquitoes?

20 A. Yes, some do.

21 Q. So now that we've established that wind
22 turbines can kill bats, let's talk a little bit about
23 the effect of that action on the public. You've
24 already mentioned that bats eat insects that
25 otherwise would eat the farmers' crops. Are you

1 aware of any studies that put a dollar value on that
2 function?

3 A. Not specifically.

4 Q. You know that there are such studies,
5 though, that exist?

6 A. I have seen information but I've not
7 reviewed a study specifically about that.

8 Q. Did you do any of the fieldwork to look
9 for bats in the Republic Wind project area?

10 A. Can you clarify if you mean me
11 personally?

12 Q. Yeah.

13 A. Yes.

14 Q. Okay. You have a list of the bat studies
15 that you are sponsoring and it looks like the list
16 starts on page 3 of your testimony.

17 Let's go back -- Let's just start with
18 page 2, Answer 6. You have a survey mentioned there
19 that occurred from July 23 to 31, 2015. Then you
20 have a couple of other surveys listed in the rest of
21 the answer to Answer 6. Are those studies, that are
22 described in Answer 6, also listed in Answer 7, or is
23 that a separate list?

24 A. Same list. It's -- well, they are in
25 Question 7, yes.

1 Q. Okay. So Question -- Answer 7 has a
2 complete list of all of the bat studies that you
3 believe are pertinent to this project?

4 A. All of the bat studies I'm aware of, yes.

5 Q. Okay. All right. Well, let's look a
6 little bit more at that list then. For which of the
7 studies, listed in Answer 7, did you personally do
8 any fieldwork?

9 A. The third bullet, the summer 2015, bat
10 surveys. And I believe I was also in the field for
11 the 2016 and then also for the 2015/2016, so the last
12 three bullets. To the best of my knowledge, I was
13 there.

14 Q. During your fieldwork for any of these
15 surveys, did you see any bald eagles?

16 A. No.

17 Q. But you weren't specifically looking for
18 bald eagles, correct?

19 A. Correct.

20 Q. Was most of the fieldwork that you did
21 performed at night, that is during hours of darkness?

22 A. Could you clarify "most"?

23 Q. Well, give me a relative percentage, if
24 you can, between the time you were doing fieldwork
25 for these studies in darkness and the time that you

1 were doing it during daytime hours.

2 A. I'm not sure I can do that. There's both
3 daytime and nighttime.

4 Q. With respect to the first study which is
5 labeled "Tetra Tech, Bat Acoustic Monitoring Survey
6 Report," that study was performed in 2011, correct?

7 A. Yes.

8 Q. And that study, did that study involve
9 any mist netting?

10 A. No.

11 Q. Okay. So it only involved acoustic
12 monitoring?

13 A. Correct.

14 Q. And in the acoustic monitoring that was
15 performed, that was done for the purpose of recording
16 the calls of bats; is that right?

17 A. Yes.

18 Q. Okay. Why did you do that or why was
19 that done?

20 A. There is -- part of ODNR's request was to
21 conduct acoustic surveys at a met tower. That's why
22 it was done.

23 Q. At how many met towers were these
24 recorders installed?

25 A. One.

1 Q. And where was that met tower located?

2 A. I don't have a specific location.

3 It's -- we could look it up in the report but I don't
4 have it memorized.

5 Q. Yeah. Are you familiar with the
6 present-day boundaries of the project area as they
7 have been designated by Republic Wind?

8 A. I have seen a figure, yes.

9 Q. Okay. Do you know whether the current
10 layout for turbines is the same today as it was
11 during the time that the Tetra Tech study was done in
12 2011?

13 A. Based on the figure that is in that
14 report, are you talking about -- can you clarify the
15 project boundary or the turbines?

16 Q. The project area.

17 A. The project area.

18 Q. Yeah.

19 A. Based on the report boundary and the
20 boundary that I was recently shown, I didn't go to
21 the level of discerning whether or not -- the
22 boundary looked different, I can say that.

23 Q. Okay. Are you aware that the boundaries
24 of the project area have gone through a number of
25 configurations since 2011?

1 A. Only from what I can see in the 2011
2 report and compare those to the 2015-2016 studies
3 that we did.

4 Q. Oh, okay. So have you seen a sketch or a
5 map of the project area as it existed in 2015?

6 A. Yes. It's in the report.

7 Q. Okay. Do you know whether the boundaries
8 of the project area have changed since then?

9 A. Again, I looked at it, and it appeared to
10 be different.

11 Q. Okay. Now, do you know whether the
12 location of the met tower is contained within the
13 boundaries of the current project area?

14 A. I do not know.

15 Q. What is used to record the bat calls for
16 acoustics monitoring? What kind of recording device?

17 A. There's a couple of different models and
18 different companies that manufacture them. There is
19 Titley who makes the --

20 Q. I don't really want to know the brands.
21 I just want to know what type. Is it a basic tape
22 recorder or is it something else?

23 A. It's a recorder. It's this big
24 (Indicating).

25 Q. Okay. It's just a simple tape recorder.

1 A. It records ultrasound. I don't know if
2 it's simple but it's an electronic device that
3 records ultrasound that's produced by bats when
4 they're flying.

5 Q. Okay. Over what period of territory is
6 that device able to pick up the sounds of bats
7 calling?

8 A. It varies. It can depend on
9 environmental conditions. It can depend on --
10 humidity can affect how sound travels. I'm not a
11 sound expert but I know there are multiple variables
12 that can affect how far these detectors can detect
13 bats. How loud the bat is. Some bats are loud,
14 quote/unquote loud with their ultrasound. Some are
15 very soft called whisper bats. So it depends on the
16 bats and it depends on the atmospheric conditions but
17 I don't know exactly how far.

18 Q. Do you know a general range of distance
19 that can be -- in which bat calls can be recorded by
20 such a device?

21 A. I personally don't, but I believe in the
22 report it states, I think, some controls they did to
23 set some settings and sensitivities of the detectors.
24 I believe there's some numbers in the record.

25 Q. Do you know what the meteorological

1 conditions were during the time that these acoustic
2 surveys were being run?

3 A. No.

4 Q. Were these acoustic surveys run both day
5 and night or just at night?

6 A. I believe the report says they are
7 programmed to come on for a period of time before
8 sunset and continue for a period of time after sun --
9 sorry, before sunset to after sunrise.

10 Q. Do you know how many nights on which the
11 recording devices at this location were turned on to
12 record the bat sounds?

13 A. Can we look at the report?

14 Q. Sure we can.

15 A. I believe it's 245.

16 Q. Okay. Go ahead.

17 ALJ SANYAL: Just for our reference
18 purposes, where is the report in the Application?

19 MR. PARRAM: Which exhibit are we?

20 THE WITNESS: I don't know. How do I
21 find it in this thing? Is it J?

22 MR. VAN KLEY: Yes, I know there are some
23 bat studies in J. I can't specifically tell you.

24 ALJ SANYAL: Are we --

25 MR. VAN KLEY: I can tell you the first

1 part of J has a study from 2015, but I believe that
2 was mist netting. I'm not sure whether --

3 ALJ SANYAL: Mr. Van Kley, is it in
4 the -- so we're back to is it in the December 2018 --

5 MR. VAN KLEY: Yes.

6 ALJ SANYAL: -- Amended Application?

7 MR. VAN KLEY: Yes, it is.

8 ALJ SANYAL: And Exhibit J to that?

9 MR. VAN KLEY: It is, yes.

10 ALJ SANYAL: Okay. Do we know which part
11 of Exhibit J?

12 MR. VAN KLEY: I don't think this is in
13 Exhibit J.

14 THE WITNESS: I don't know where it's
15 located.

16 ALJ SANYAL: Okay.

17 THE WITNESS: Wait. I found it. I found
18 it. Yes, I was correct, 245 nights.

19 Q. (By Mr. Van Kley) 245 nights over what
20 period of time?

21 A. From March 16 through November 16.

22 Q. Of 2011?

23 A. Correct.

24 Q. Okay.

25 ALJ AGRANOFF: You said March to

1 November?

2 THE WITNESS: March 16 through
3 November 16.

4 ALJ SANYAL: Mr. Leftwich, where is this
5 information that you're looking at so we can follow
6 along with you?

7 THE WITNESS: Exhibit P.

8 ALJ SANYAL: Exhibit P?

9 ALJ AGRANOFF: In what year? You said
10 March 16.

11 THE WITNESS: 2011.

12 ALJ SANYAL: Okay. What page are you on,
13 Mr. Leftwich?

14 THE WITNESS: Page 6.

15 ALJ SANYAL: Perfect. Thank you.

16 THE WITNESS: Table 3.1.

17 ALJ AGRANOFF: All right. Mr. Van Kley.

18 Q. (By Mr. Van Kley) Now, during this
19 survey, the recording detected 44 bats of the genus
20 Myotis; is that correct?

21 A. Correct.

22 Q. And one of the bats in that genus is the
23 Indiana bat, correct?

24 A. Yes.

25 Q. But based on the recordings, no one could

1 tell what kind of, what species of Myotis bat was
2 detected; is that correct?

3 A. Correct. They're listed as unknown.

4 Q. Okay. Are there any other acoustics
5 studies contained in the studies that are listed in
6 Answer 7 of your testimony?

7 A. No.

8 Q. Moving on to the second study listed in
9 Answer 7. This one is labeled "Final Report Mist Net
10 Surveys of Summer Bats On The Proposed Republic Wind
11 Farm" and it was done by Environmental Solutions &
12 Innovations, correct?

13 A. Yes.

14 Q. And when was that study performed in the
15 field?

16 A. I need to reference the report to get the
17 exact dates, but it was in 2011.

18 Q. Okay. Do you know how long the study
19 lasted?

20 A. Not without looking.

21 Q. Okay. Go ahead and look then.

22 ALJ SANYAL: And are we referring to the
23 Application once again now?

24 MR. VAN KLEY: Yes, we are.

25 ALJ SANYAL: Do we know where we're

1 looking?

2 MR. VAN KLEY: I think all of these
3 studies are contained in the December 26, 2018
4 Amended Application.

5 ALJ SANYAL: Sure, but do you know a
6 specific exhibit --

7 MR. VAN KLEY: I don't know.

8 ALJ SANYAL: -- since there's many
9 exhibits.

10 MS. FLINT: I do.

11 ALJ SANYAL: I'm sorry?

12 MS. FLINT: It's Exhibit Q.

13 ALJ SANYAL: And do you know which part?

14 THE WITNESS: I'm looking for the answer.

15 ALJ SANYAL: I'm looking at the docket.
16 There's eight parts to Exhibit Q. Unless the Company
17 has a binder for us that we can look at.

18 MR. PARRAM: What part of -- I'm not sure
19 what part of the record he's referring to.

20 ALJ SANYAL: Okay.

21 THE WITNESS: I can't find the specific
22 dates without going through all of the data sheets,
23 but I do know it was conducted during the period
24 sometime between June 15 and July 31.

25 ALJ AGRANOFF: Of 2011?

1 THE WITNESS: 2011, yes, sir.

2 MR. VAN KLEY: Okay. That's close
3 enough.

4 THE WITNESS: Okay.

5 Q. (By Mr. Van Kley) Do you know how many
6 mist net sites were set up for this study?

7 A. 25.

8 Q. Do you know whether all 25 of these sites
9 are -- were located in the area that is now within
10 the current configuration of the project area?

11 A. I don't know that.

12 Q. Let's move on to the third study.
13 "Copperhead Revised: Summer 2015 Bat Surveys." And
14 this is a survey that you personally participated in,
15 correct?

16 A. Correct.

17 Q. Were any -- did this also consist of mist
18 net sites?

19 A. Yes.

20 Q. How many of them?

21 A. 36.

22 Q. And were all of these sites set up in the
23 area that is within the current boundaries of the
24 project area?

25 A. I do not know.

1 Q. How much acreage was being surveyed with
2 these 36 mist nets?

3 A. 4,454 forested acres.

4 Q. Give me that number again, please.

5 A. 4,454 acres.

6 Q. Okay.

7 A. Forested acres.

8 ALJ AGRANOFF: All within the project
9 area?

10 THE WITNESS: Yes.

11 Q. (By Mr. Van Kley) Okay. I thought you
12 already said you didn't know whether all of these
13 mist nets are within the boundaries of the current
14 project area.

15 A. I do not know. I assume you're referring
16 to the project boundary at the time of the study.

17 ALJ AGRANOFF: Actually, it was going to
18 be both questions. Whether it was part the initial
19 study as well as whether it is now the project area
20 as it currently is comprised.

21 THE WITNESS: Okay. They were in the
22 project boundary at the time of the study, yes.

23 Q. (By Mr. Van Kley) And you don't know
24 whether they are in the current boundary of the
25 project area.

1 A. Correct.

2 Q. Going back to the second study, the
3 Environmental Solutions & Innovations study of
4 October 2011. Do you know how much acreage was
5 covered by that survey?

6 A. It does not state.

7 Q. Is there a general rule of thumb as to
8 how much area can be surveyed by each mist net?

9 A. Not by mist net, no.

10 Q. Is there another rule of thumb you can
11 provide to us?

12 A. About -- can you be more specific? I'm
13 not understanding the question.

14 Q. Yeah. Well, when you set up a survey to
15 look for bats, do you use any particular rule of
16 thumb to decide how far apart the nets should be?

17 A. Yes, there is guidance on spacing of
18 nets.

19 Q. Okay. And do you -- is there any
20 guidance with respect to how much territory a
21 particular net is representative of?

22 A. Not at the net level, no, there's not.

23 Q. Okay. Is there at any other level?

24 A. At the site level, yes.

25 Q. Okay. So just for clarification, a

1 monitoring site includes more than one net, right?

2 A. It can. It depends on --

3 Q. It varies?

4 A. It can.

5 Q. Okay. So is there a rule of thumb with
6 regard to how much territory can be covered by a
7 single monitoring site?

8 A. Yes, and it depends on the type of
9 project.

10 Q. Okay. So for the type of project we have
11 in the Copperhead Revised Report, Summer 2015, that
12 we've been discussing, what would apply to that
13 study?

14 A. Approximately a square kilometer.

15 Q. And what is that based on?

16 A. The -- it goes back to the early -- to
17 the Indiana bat survey guidelines that have been put
18 out by U.S. Fish and Wildlife Service. It's more
19 about how many sites are necessary based on how many
20 123-acre chunks of forested habitat is present
21 which -- well, 246 acres is a square kilometer, so.

22 Q. Do you design studies of this nature
23 yourself?

24 A. Yes.

25 Q. Can you give me some rules of thumb with

1 regard to what you believe is necessary in terms of
2 net coverage to adequately cover a project of this
3 nature?

4 A. It depends on if you're talking about
5 Indiana bat. What's the goal, I guess?

6 Q. We can start with the Indiana bat
7 detection.

8 A. Yes. Okay, sorry, can you repeat the
9 question?

10 Q. You made me forget it. Let me try again.

11 Is there any rule of thumb that you use
12 in setting up your designs of projects of this nature
13 to determine how much coverage with nets you need to
14 properly cover a project area?

15 A. Yes. The U.S. Fish and Wildlife Service
16 Guidelines for Indiana bats surveys is one site per
17 123 acres of forested habitat or bat habitat. That's
18 how you calculate it.

19 Q. Why are the nets set up in forested
20 acres?

21 A. A couple reasons. One, forested habitat
22 is what you could generally say is bat habitat. They
23 spend a lot of time in forested areas, they forage,
24 they roost in forested areas. More importantly, it
25 has to do with techniques you need -- techniques that

1 you use to catch bats. You need -- you need that
2 forested cover to provide funnels and areas where you
3 can capture bats that are traveling through.

4 Q. Let's go to the fourth study listed in
5 Answer 7 which is entitled "Copperhead, Summer 2016
6 Bat Survey," and you personally participated in that
7 one?

8 A. Best of my knowledge -- I could look in
9 the report and confirm, but best of my knowledge,
10 yes.

11 Q. All right. Well, let's see what you
12 remember about the study. Was this study conducted
13 in the Republic Wind project area as it existed
14 during the time the study was conducted?

15 A. Yes.

16 Q. Do you know whether the study was
17 conducted in areas that are included in the
18 current boundary of the project area?

19 A. I do not know.

20 Q. This study also involved mist netting of
21 bats, correct?

22 A. Correct.

23 Q. How many monitoring sites were involved
24 in this study?

25 A. I am not finding it in this binder. Are

1 these all different binders, I'm assuming?

2 Q. Yes.

3 MS. FLINT: Which study, again, are we
4 trying to find?

5 MR. VAN KLEY: The fourth one.

6 THE WITNESS: 2016, the fourth bullet.

7 MR. VAN KLEY: Copperhead, 2016.

8 MS. FLINT: Might try Exhibit J.

9 ALJ AGRANOFF: Which is rather
10 voluminous.

11 MS. FLINT: Pardon me?

12 ALJ AGRANOFF: Which is rather
13 voluminous.

14 MR. VAN KLEY: The narrative to Exhibit J
15 would be in the first part. It would start in the
16 first part of Exhibit J. Most of it is simply the
17 field sheets that are behind the narrative report.

18 THE WITNESS: Exhibit J has nothing to do
19 with bats. This is the Tetra Tech. This is not it
20 either.

21 ALJ AGRANOFF: Why don't we go off the
22 record for a minute.

23 (Off the record.)

24 ALJ AGRANOFF: Please proceed.

25 Q. (By Mr. Van Kley) I take it from the fact

1 that you're looking in the Application for this study
2 that the number of mist net sites is identified in
3 that report?

4 A. Correct.

5 Q. Okay. So I think we'll move on then.
6 We'll look for that information on our own time.

7 A. Okay.

8 Q. Without that information about the number
9 of mist netting sites, can you tell me how much
10 acreage was surveyed as part of this study?

11 A. I'd have to check the reference in the
12 report. It will be listed in there.

13 Q. Will it?

14 A. Yes, absolutely.

15 Q. All right. Well, we'll move on then.

16 I'm a little bit confused by some of the
17 statements in Answer 6. Directing your attention to
18 the second paragraph of Answer 6, you refer to a
19 survey that was completed between July 11 and 22,
20 2016. Do you see that?

21 A. Yes.

22 Q. And then in the next paragraph, you refer
23 to a survey that was completed between July 19 and
24 22, 2016. Do you see that?

25 A. Yes.

1 Q. Okay. Were both these surveys summarized
2 in the same report or in separate reports?

3 A. Separate reports.

4 Q. Okay. So which report covered the second
5 paragraph, the survey noted in the second paragraph
6 that occurred between July 11 and 22, 2016? I'm
7 referring to the list in Answer 7.

8 A. That would be the report that titled
9 "Copperhead, Summer 2015 and 2016 Bat Surveys for the
10 Emerson West Wind Project."

11 Q. Okay. Then how about the next paragraph
12 in Answer 6, referring to the survey of July 19
13 through 22, 2016, what report is that summarized in?

14 A. That would be summarized in the report
15 entitled "Summer 2016 Bat Survey for the Proposed
16 Republic Wind Project, Seneca and Sandusky Counties,
17 Ohio."

18 Q. Okay. Moving on to the last-listed study
19 in Answer 7 which is entitled "Copperhead, Summer
20 2015 and 2016 Bat Surveys for the Emerson West Wind
21 Project," do you know whether any of the mist net
22 locations or sites in this survey are in the
23 present-day footprint of the Republic Wind project
24 area?

25 A. It says nine of the sites surveyed.

1 Q. And do you know how many sites there were
2 in this survey?

3 A. I do not, no, not without looking it up.

4 Q. We won't put you through that again.

5 All of the surveys listed in Answer 7,
6 did you find or was there found any Indiana bats?

7 A. Yes.

8 Q. In which surveys or surveys was one or
9 more Indiana bats found?

10 A. In the Environmental Solutions &
11 Innovations Final Report, 2011. And the Copperhead,
12 Revised Summer 2015 Bat Surveys for the Proposed
13 Republic Wind Project.

14 ALJ AGRANOFF: The year for that?

15 THE WITNESS: 2015.

16 Q. How many Indiana bats were found in the
17 survey that's entitled "Final Report Mist Net Surveys
18 of Summer Bats On The Proposed Republic Wind Farm,
19 2011"?

20 A. I believe one.

21 Q. Okay. And how many were found in the
22 other study?

23 A. I believe one was captured.

24 Q. Do you know what the travel range for an
25 Indiana bat is?

1 A. Can you be more specific in time of year?

2 Q. No. Just maximum. The maximum travel
3 range regardless of the time of year.

4 A. I can't. Unless you specify time of
5 year, you're really talking about different
6 ethnologies and different behaviors.

7 Q. Okay. Because of migration perhaps?

8 A. It wouldn't make sense to combine those
9 two --

10 Q. All right.

11 A. -- life stages.

12 Q. All right. You make a very good point.
13 During the time that the Indiana bat is active in
14 warm weather months and is not migrating, what is its
15 normal range of travel?

16 A. I guess the reference to Indiana bat
17 movements in the summer maternity season, which would
18 be your warm, I guess you're referring to the warm
19 months of the summer --

20 Q. Yeah.

21 A. -- U.S. Fish and Wildlife Service will
22 kind of provide a broad figure of two and a half
23 miles in the foraging range of Indiana bats.

24 Q. And the Indiana bat is an endangered
25 species, correct?

1 A. Correct.

2 Q. Is there any general rule of thumb, to
3 your knowledge, that provides a ratio of captured
4 Indiana bats to non-captured Indiana bats in an area
5 that's being surveyed by mist netting?

6 A. No.

7 Q. Is there any way to tell from the number
8 of Indiana bats that are captured in a survey as to
9 what the population levels for the Indiana bat are in
10 the area that's being surveyed?

11 A. Did you say by capture?

12 Q. Yeah. Is there any -- yeah, is there any
13 way to tell from the number of captured Indiana bats
14 as to what that means about the total number of
15 Indiana bats in the area that's being surveyed?

16 A. No. Not -- well, let me rephrase that.
17 Not by the methodologies used in this study.

18 ALJ AGRANOFF: So what's the purpose
19 behind a mist-net survey if not to calculate the
20 overall population?

21 THE WITNESS: Oh, it's to -- in the case
22 of -- it's to determine presence and probable absence
23 of endangered species. It's not intended to estimate
24 population size. It's not the -- it's not the goal
25 of a presence/probable absence mist-net survey.

1 ALJ AGRANOFF: So it's simply to
2 determine presence or absence?

3 THE WITNESS: The mist-net survey is,
4 yes.

5 ALJ SANYAL: And how do you determine the
6 presence or absence by using the mist net?

7 THE WITNESS: If --

8 ALJ SANYAL: I know it's probably a
9 longer explanation. If you can give me a shorter --

10 THE WITNESS: I can give you a quick one.
11 If you capture them, then they're present. If you
12 don't capture them, then they're probably absent.

13 ALJ SANYAL: How do you -- how do you --

14 THE WITNESS: Catch one?

15 ALJ SANYAL: Yeah.

16 THE WITNESS: Oh, I'm sorry.

17 ALJ SANYAL: How do you know you caught
18 one?

19 THE WITNESS: Oh, because we're permitted
20 and able and proven to be able to identify them to
21 species level in hand.

22 ALJ SANYAL: I think I'm looking for like
23 how do you, when a bat flies into, I assume it's
24 nylon or something?

25 THE WITNESS: Correct.

1 ALJ SANYAL: When a bat flies in, how
2 does one know, is someone there, is there a computer,
3 is there a tool?

4 THE WITNESS: Right, no, there would be a
5 permitted biologist on site and the nets are checked
6 every 10 minutes --

7 ALJ SANYAL: Okay.

8 THE WITNESS: -- for bats tangled in
9 them.

10 ALJ SANYAL: Oh, okay, and then you set
11 them free?

12 THE WITNESS: Correct. After you collect
13 data, you turn them loose.

14 (Laughter.)

15 ALJ SANYAL: I just don't know.

16 (Laughter.)

17 THE WITNESS: I'm more than happy to
18 explain it. It's very interesting to me, so.

19 ALJ SANYAL: Oh, it's very interesting to
20 me, too, because we have all these questions about
21 what is a mist net and, you know, how large are they.

22 THE WITNESS: I can tell you, so ask
23 away.

24 ALJ SANYAL: Might as well, you're here,
25 so let us know.

1 THE WITNESS: Specific to how large are
2 they?

3 ALJ SANYAL: Yeah.

4 THE WITNESS: The mist nests you purchase
5 can be anywhere from 4-feet to 60-feet wide.

6 ALJ SANYAL: Okay.

7 THE WITNESS: And you -- depending on the
8 type of area you're deploying your nets will
9 determine the size of net you would use. So there's
10 not a -- the net size is a function of the habitat
11 and the feature you're surveying, not the bats, the
12 bat species. It's about the area you're surveying.

13 Q. (By Mr. Van Kley) Were any mist net
14 monitoring sites located near the met tower that was
15 used for the acoustics survey?

16 A. No.

17 ALJ AGRANOFF: Mr. Van Kley, when you use
18 the term "met tower," the meteorological tower?

19 MR. VAN KLEY: I assume so. That was the
20 term used by the witness and that's what you meant,
21 right?

22 THE WITNESS: Yes, it's meteorological
23 tower, yes, sir.

24 MR. VAN KLEY: I have no further
25 questions.

1 ALJ AGRANOFF: Thank you.

2 Any other questions of Staff?

3 MS. BAIR: Just a few.

4 - - -

5 CROSS-EXAMINATION

6 By Ms. Bair:

7 Q. I represent the Board Staff, and I just
8 have a couple questions about bat surveys.

9 A. Okay.

10 Q. So you've conducted hundreds, right? Is
11 that what you said in your testimony?

12 A. Oh, yeah, at least, yes.

13 Q. Okay. How long would you consider the
14 results of a survey to be valid?

15 A. In terms of presence/probable absence
16 surveys?

17 Q. No. I mean datewise. If I did a survey
18 in 1998, that wouldn't still be valid today in 2019,
19 would it?

20 A. Presence/probable absence surveys have a
21 timeline associated with them --

22 Q. Okay.

23 A. -- from a regulatory standpoint.

24 Q. What is that timeline?

25 A. Currently -- well, presence is

1 indefinite. It doesn't go away. If an endangered
2 bat is located, Fish and Wildlife Service will always
3 say from now until the end of time they're present in
4 that area. It's a one-time determination.

5 Absence --

6 Q. How about absence -- I'm sorry.

7 A. Absence surveys, if a survey determines
8 probable absence, currently the timeline is five
9 years.

10 Q. And would that be the same with ODNR and
11 U.S. Fish and Wildlife?

12 A. I believe they are in agreement on that.

13 MS. BAIR: That's all I had. Thank you.

14 ALJ AGRANOFF: Mr. DeVine.

15 MR. DEVINE: No, thank you.

16 ALJ AGRANOFF: Redirect?

17 MS. FLINT: A little bit.

18 ALJ AGRANOFF: Please proceed.

19 - - -

20 REDIRECT EXAMINATION

21 By Ms. Flint:

22 Q. In terms of the -- there was a question
23 about locating a mist net near the met tower. Do you
24 remember that?

25 A. Yes.

1 Q. Would there be -- should there have been
2 a mist net located near the met tower?

3 A. No. The met tower was not located in
4 habitat that's typically sampled with mist nets.

5 Q. Do you know if the 2011 ESI mist-net
6 surveys were performed in accordance with ODNR's 2009
7 Pre-Construction Monitoring Protocols for Commercial
8 Wind Energy Facilities?

9 MR. VAN KLEY: Objection, Your Honor.
10 That's outside the scope of cross. We didn't
11 question that fact.

12 MS. FLINT: I think maybe that wasn't put
13 in that exact terms but there were a lot of questions
14 about the methodologies used, where a net was, how
15 many were set up, acreage, et cetera, which was
16 clearly going to methodology.

17 MR. VAN KLEY: I'll withdraw the
18 objection.

19 ALJ AGRANOFF: The witness can answer.

20 A. Yes, but I believe it was 2008 ODNR
21 guidelines, I'd have to look back, but yes, they did
22 meet the current ODNR and U.S. Fish and Wildlife
23 Service guidelines at the time of the survey.

24 Q. And for the three Copperhead surveys that
25 you were involved in, were those done in accordance

1 with 2009 ODNR On-Shore Bird and Bat Pre-Construction
2 Monitoring Protocol for Commercial Wind Energy
3 Facilities?

4 A. Yes.

5 Q. Were they done in accordance with 2015
6 Indiana Bat Summer Survey Guidelines for U.S. Fish
7 and Wildlife Service?

8 A. Yes.

9 Q. Were the study plans reviewed by ODNR
10 and/or U.S. Fish and Wildlife Service as applicable
11 and approved by them before the studies were
12 performed?

13 A. Yes.

14 MS. FLINT: Nothing further.

15 ALJ AGRANOFF: Any recross?

16 MR. VAN KLEY: Yeah.

17 - - -

18 RECROSS-EXAMINATION

19 By Mr. Van Kley:

20 Q. With regard to the location of the met
21 tower that was used for the acoustic survey, how
22 far -- was that met tower located in a wooded area?

23 A. No.

24 Q. What kind of habitat was it located in?

25 A. I believe the report said an ag field of

1 some sort.

2 Q. Okay. And what was the distance between
3 that met tower and the nearest wooded area?

4 A. The report states that the nearest
5 forested area was approximately 670 meters northeast
6 of the met tower.

7 Q. And was a mist-net monitoring -- mist-net
8 site located in that wooded area?

9 A. I wouldn't know the answer. I don't
10 know. I didn't compare.

11 Q. Would the bat surveys that were performed
12 still meet the ODNR guidelines as they exist today?

13 A. Which study?

14 Q. Any of the studies. Let me put the
15 question this way to make it simpler. Of the studies
16 you've been testifying about today, are any of those
17 surveys -- were any of those surveys conducted in a
18 manner that would not satisfy ODNR's current
19 guidelines?

20 A. I believe the Copperhead studies would,
21 and I'm positive on that. The ESI mist-net survey, I
22 believe they reference the 2008 ODNR guidelines were
23 applicable at the time. That wouldn't make sense.
24 I'd have to go back to see -- let me check the ESI
25 report for the guidelines.

1 The ESI report references the ODNR 2008
2 guidelines. The Copperhead reports are the 2009
3 guidelines. I cannot tell from the ESI report, they
4 don't have the citation listed and cited so I cannot
5 tell if that citation date -- the ODNR guidelines,
6 the latest revision is 2009, the last revision of the
7 guidelines that I'm aware of. So with the studies
8 being done afterwards then the answer is yes, they
9 would still be consistent with the current ODNR
10 guidelines

11 Q. Okay. So you believe that all of the
12 surveys listed in Answer 7 of your testimony were
13 conducted in accordance with the 2009 ODNR
14 guidelines?

15 A. The ESI report states 2008 and the
16 Copperhead reports state 2009.

17 Q. I'm sorry, were you finished with the
18 answer?

19 A. Yes, yes.

20 Q. All right. So looking at your testimony
21 in Answer 7 where you describe the ESI survey, you
22 see right in your testimony you identify the ODNR
23 2008 guidelines as being the guidelines that were
24 followed, correct?

25 A. That is what the report states, yes.

1 Q. Okay. And given that the 2008 guidelines
2 were used instead of the 2009 guidelines, was the ESI
3 survey conducted in a manner that would have complied
4 with the 2009 ODNR guidelines?

5 A. Without revisiting the guidelines in
6 detail, I can't answer that.

7 MR. VAN KLEY: All right. Nothing
8 further.

9 ALJ AGRANOFF: Thank you.

10 Anything else on recross from Staff?

11 Mr. Devine?

12 MR. DeVINE: No. Thank you.

13 ALJ AGRANOFF: I just have a couple of
14 questions.

15 THE WITNESS: Sure.

16 - - -

17 EXAMINATION

18 By ALJ Agranoff:

19 Q. According to your testimony, it appears
20 that you became involved in Republic Wind's
21 Application in this case beginning in 2015; is that
22 correct?

23 A. Correct.

24 MR. DeVINE: Excuse me, can you turn your
25 microphone on?

1 ALJ AGRANOFF: I'm sorry.

2 MS. FLINT: Your Honor, can I ask a
3 procedural question? Do I have the possibility of
4 redirect before your questions or after?

5 ALJ AGRANOFF: You had redirect already.

6 MS. FLINT: Right. After the recross,
7 that's what I was asking, a procedural question.

8 ALJ AGRANOFF: No.

9 MS. FLINT: Okay.

10 ALJ AGRANOFF: We do one redirect, one
11 recross, and then the Bench, and there may be
12 additional questions you might have based on the
13 questions that we ask.

14 MS. FLINT: But not based off questions
15 he asked.

16 ALJ AGRANOFF: No. One redirect, one
17 recross, and then that's the end of that.

18 MS. FLINT: Thank you.

19 Q. (By Alj Agranoff) Okay. So my question
20 was you became involved in analyzing Republic Wind's
21 Application process in 2015.

22 A. That is when I was involved with the bat
23 surveys, yes.

24 Q. And yet, you are also testifying and
25 sponsoring studies that were done in 2011.

1 A. Correct.

2 Q. I don't know whether you had already
3 explained this, but if you could explain your
4 familiarity with these studies even though --

5 A. Sure.

6 Q. -- you were not the one personally who, I
7 assume, performed those studies.

8 A. Correct, yes. My familiarity is from
9 reading the reports, I became familiar with the
10 methodology, I became familiar with the data, I
11 became familiar with the agency coordination that
12 occurred prior to the studies being conducted, and I
13 reviewed them in terms of complying with the --
14 implementing the methodology approved at the time and
15 how those studies occurred and the data it collected.

16 Q. And who actually performed the 2011
17 studies?

18 A. A multitude of people. A company or
19 individuals?

20 Q. Let's start with the company.

21 A. Environmental Solutions & Innovations.
22 They did the 2011 bat mist-net survey.

23 Q. Which is the second bullet point on
24 page 3 of your testimony.

25 A. Correct.

1 Q. And who performed the first survey that's
2 listed from 2011?

3 A. Tetra Tech.

4 Q. Thank you.

5 Could explain to me if there is a
6 distinction between, and I'm looking on page 2 of
7 your testimony, the past mist-net survey discussed in
8 your answer to Question 6 in the first paragraph to
9 the third paragraph of that same response, bat
10 presence/probable absence mist-net survey, is there a
11 difference between those two surveys?

12 A. Yes.

13 Q. Okay. And if you can just explain the
14 distinction for me.

15 A. Sure. The 2015 mist-net survey was
16 conducted in an area where presence was already
17 determined for Indiana bats and northern long-eared
18 bats based on U.S. Fish and Wildlife Service's
19 correspondence with myself during the planning; so it
20 did not -- it wasn't considered presence/probable
21 absence surveys because presence was already
22 determined.

23 Q. So then what were you seeking with
24 respect to that first survey?

25 A. Oh, the purpose? Yeah, to -- to collect

1 more information about species diversity across the
2 project area at that time and to also conduct further
3 radiotelemetry analysis on Indiana bats and northern
4 long-eared bats that were captured and also a couple
5 state-listed species that ODNR requests that you
6 would conduct radiotelemetry on. So to collect
7 additional information of the project area in regards
8 to bats.

9 Q. And then with respect to the 2016?

10 A. So that study specifically was an area
11 that was added to the project boundary. The project
12 boundary shifted, so we conducted a bat presence/
13 probable absence survey for that portion because it
14 had not been surveyed before.

15 Q. And that was 2016, and obviously, as
16 we've heard throughout the testimony given in this
17 proceeding, there have been continued modifications
18 of the project area since 2016.

19 A. Sounds like it. I'm not familiar with
20 those.

21 Q. But those continued modifications, from
22 your perspective, did not require further analysis
23 from a bat-presence standpoint?

24 A. I'm not familiar with the changes after
25 2016. I have not been involved with the project at

1 that point so I don't know -- if there had been a
2 shift in project boundary, I don't know in terms of
3 bat surveys, I don't know.

4 ALJ AGRANOFF: Based on my limited
5 questions, does counsel have any follow-up?

6 - - -

7 FURTHER REDIRECT EXAMINATION

8 By Ms. Flint:

9 Q. Are you aware of whether or not ODNR
10 informed the project that the surveys were completed
11 for the current project area?

12 A. I saw some information. It was a -- I
13 can't -- it was a document that was produced that had
14 all of the U.S. Fish and Wildlife Service
15 coordination about the project as of dates after
16 these bat surveys were completed.

17 Q. So I'm not sure if you answered my
18 question.

19 A. Oh.

20 Q. Are you aware of whether or not ODNR has
21 advised the project that all of the required surveys,
22 in this case bat surveys, were done for the current
23 project area?

24 A. Yes. I read a coordination letter that
25 said that there was -- ODNR and Fish and Wildlife

1 Service agreed that the bat studies were sufficient
2 for the project.

3 Q. For the current project area is what I'm
4 asking.

5 A. Yes.

6 MS. FLINT: Thank you.

7 ALJ AGRANOFF: Thank you.

8 THE WITNESS: Thank you.

9 ALJ AGRANOFF: At this point in time,
10 does the Applicant seek the admission of Exhibit 20?

11 MS. FLINT: Yes, Your Honors.

12 ALJ AGRANOFF: Any objection?

13 Hearing none, Applicant Exhibit 20 shall
14 be admitted as part of the record at this time.

15 (EXHIBIT ADMITTED INTO EVIDENCE.)

16 ALJ AGRANOFF: And, Mr. Van Kley, with
17 respect to, and this obviously does not pertain to
18 Mr. Leftwich, but LR Exhibit 6 that you had marked
19 and had used with the prior witness, are you seeking
20 any admission with respect to that exhibit?

21 MR. VAN KLEY: No.

22 ALJ AGRANOFF: No.

23 MR. VAN KLEY: No.

24 ALJ AGRANOFF: Thank you.

25 Why don't we go off the record for a

1 minute.

2 (Discussion off the record.)

3 (Thereupon, the proceedings concluded at
4 6:00 p.m.)

5 - - -

6 CERTIFICATE

7 I do hereby certify that the foregoing is a
8 true and correct transcript of the proceedings taken
9 by me in this matter on Tuesday, November 5, 2019,
10 and carefully compared with my original stenographic
11 notes.

12
13 Carolyn M. Burke

14 Carolyn M. Burke, Registered
15 Professional Reporter, and
Notary Public in and for the
16 State of Ohio.

17 My commission expires July 17, 2023.

18 - - -



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Summary: Transcript Volume II - In the Matter of the Application of Republic Wind, LLC for a Certificate of Environmental Compatibility and Public Need for a Wind-Powered Electric Generating Facility in Seneca and Sandusky Counties, Ohio, hearing held on November 5th, 2019. electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Burke, Carolyn