BEFORE THE OHIO POWER SITING BOARD

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In the Matter of the : Application of Firelands : Wind, LLC, for a : Certificate of : Environmental Compatibility and Public : Case No. 18-1607-EL-BGN Need to Construct a : Wind-Powered Electric : Generation Facility in : Huron and Erie Counties, : Ohio.

PROCEEDINGS

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before Mr. Jay S. Agranoff and Mr. Michael Williams, Attorney Examiners, Ohio Power Siting Board, conducted via Webex, called at 10:04 a.m. on Monday, October 5, 2020.

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VOLUME I

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1	Monday Morning Session,
2	October 5, 2020.
3	
4	ALJ AGRANOFF: If we could please go on
5	the record. The Ohio the Ohio Power Siting Board
6	has set for hearing at this time and place, Case No.
7	18-1607-EL-BGN, which is captioned In the Matter of
8	the Application of Firelands Wind, LLC, for a
9	Certificate of Environmental Compatibility and Public
10	Need to Construct a Wind-Powered Electric Generation
11	Facility in Huron and Erie Counties, Ohio.
12	Good morning, everybody. My name is Jay
13	Agranoff and with me is Michael Williams and we are
14	the Administrative Law Judges assigned by the Board
15	to hear this case. At this point in time we will
16	take the appearances on behalf of the parties.
17	On behalf of the Applicant.
18	MR. SECREST: Good morning, your Honor.
19	On behalf of Applicant Firelands Wind, LLC, Jonathan
20	Secrest, Christine M.T. Pirik, Terrence O'Donnell,
21	William Vorys, and Madeline Fleisher, all with the
22	law firm Dickinson Wright, 150 East Gay Street, Suite
23	2400, Columbus, Ohio 43215.
24	We also, your Honor, have James Lynch and
25	Adam Tabor, who have been admitted pro hac vice, with

12 1 K&L Gates, LLP, 925 Fourth Avenue, Suite 2900, 2 Seattle, Washington. 3 ALJ AGRANOFF: Thank you, Mr. Secrest. MR. SECREST: Thank you, your Honor. 4 5 ALJ AGRANOFF: On behalf of the City of Willard. 6 7 MS. HEYMAN: Yes. Heather Heyman on 8 behalf of the City of Willard. 9 ALJ AGRANOFF: Thank you. 10 On behalf of Norwich and Richmond 11 Townships. MR. STEPHENS: Yes. This is Assistant 12 13 Prosecutor Jacob Stephens of the Huron County Prosecutor's Office on behalf of both Norwich and 14 15 Richmond Townships. 16 ALJ AGRANOFF: Thank you. 17 On behalf of Erie County. Ms. Esposito. 18 MS. ESPOSITO: Good morning. This is 19 Alexandria Esposito on behalf of Erie County. 20 ALJ AGRANOFF: Thank you. 21 On behalf of Huron County. 2.2 MR. STRICKLER: Good morning, your 23 Honors. Randal Stickler from the Huron County Prosecutor's Office on behalf of the Huron County 24 25 Board of Commissioners.

	13
1	ALJ AGRANOFF: Thank you.
2	On behalf of the Ohio Department of
3	Natural Resources.
4	MS. WALKER: Good morning. This is
5	Katherine Walker, Ohio Attorney General's Office, on
6	behalf of ODNR.
7	ALJ AGRANOFF: Thank you very much.
8	On behalf of the Board Staff.
9	MR. MARGARD: Thank you, your Honor. On
10	behalf of the Staff of the Ohio Power Siting Board,
11	Dave Yost, Ohio Attorney General, John Jones, Section
12	Chief, Public Utilities Section, by Assistant
13	Attorneys General, Werner L. Margard and Robert A.
14	Eubanks, 30 East Broad Street, 16th Floor, I think,
15	Columbus, Ohio.
16	ALJ AGRANOFF: Thank you, Mr. Margard.
17	On behalf of Mr. Yingling and Mr. Erf.
18	MS. AIDUN: Hillary Aidun at the Sabin
19	Center for Climate Change Law, 435 West 116th Street,
20	New York, New York 100027.
21	ALJ AGRANOFF: Thank you very much.
22	On behalf of the Black Swamp Bird
23	Observatory.
24	MR. VAN KLEY: This is Jack Van Kley on
25	behalf of the Black Swamp Bird Observatory and also

	14
1	on behalf of the local residents, with Van Kley and
2	Walker at 132 Northwoods Boulevard, Suite C-1,
3	Columbus, Ohio 43235.
4	ALJ AGRANOFF: Thank you, Mr. Van Kley.
5	Are there any of the pro se residents
6	that were granted intervention in this particular
7	matter that are currently on the line that are able
8	to represent that they are participating in this
9	particular proceeding?
10	I do understand that it is possible that
11	they may be an attendee and if that is the case, then
12	at this moment they are unable to actually have the
13	capability of speaking. But if you can please send a
14	chat message so that we are aware of the fact that
15	you need to be promoted to a panelist status, we will
16	be able to do that. Thank you.
17	I would point out that this is an
18	adjudicatory hearing that is taking place pursuant to
19	the parameters set forth in the Entries of July 13,
20	August 21, and September 3 of this year. Due to the
21	COVID-19 emergency that remains in effect, pursuant
22	to Executive Order 2020-01(D), issued by the Governor
23	of the State of Ohio, and consistent with Amended
24	Substitute House Bill 197, this hearing is being held
25	through Webex which enables parties to participate by

video conference while also affording public access
 to the hearing by telephone or video -- video via the
 internet.

Before we get started with the first witness, I would like to address some preliminary issues.

7 First, if counsel or witnesses experience 8 any technical difficulties while testifying, or they have any difficulties with the ability to see or hear 9 what is going on in this particular proceeding, they 10 need to indicate as such by either the chat function 11 12 or by letting us know by calling the Board's offices, 13 and the phone number for that is 614-466-6843, and 14 again you can also utilize the chat function to 15 immediately -- immediately let us know that you are 16 experiencing a particular problem with being able to 17 participate in today's proceeding.

One thing that you should realize when using the chat function is that the chats are being recorded and should not be considered private. The chats are also not part of the official record in this case.

For those of you that are watching or listening as an attendee, as I indicated before, you will be able to observe the hearing. Your

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1 microphones will be muted.

2 Now, as we did this morning and we will do for subsequent days of this hearing, there will be 3 a 15 minute tech session prior to each day that 4 5 individuals that will be testifying for particular 6 days of the proceeding will be able to join and get some background information as to how the Webex 7 8 platform should be utilized. So please let your 9 witnesses know for the subsequent days that that 10 availability will be provided to them to the extent 11 that they want to get a little bit more comfort with 12 the Webex technology.

Now let's talk a little bit about how
this hearing is going to be conducted today. In many
respects it's going to be no different than the way a
typical normal hearing would take place at the Board.
However, due to the remote nature of the hearing,
here are some general ground rules and reminders for
the hearing.

First, to avoid unnecessary background noise, I would ask that counsel keep their microphones on mute unless they are speaking or are prepared to speak as quickly as possible for the purposes of raising objections during cross-examination of a particular witness.

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	17
1	The microphones of the witnesses shall be
2	kept on mute until it is their time to testify.
3	With respect to the video, counsel should
4	leave cameras on at all times except during breaks.
5	You can also turn your video off if you need to step
6	away from the hearing when your co-counsel is taking
7	the lead. Just remember to turn your camera back on
8	when you return.
9	Witnesses will need to turn on their
10	cameras and microphones when they are ready to begin
11	their testimony.
12	The key thing with respect to how this
13	will run in a very seamless manner will be if we make
14	the court reporter's job as easy as possible. So the
15	key thing to remember is to speak clearly, at a
16	reasonable speed, so that the court reporter can
17	accurately transcribe the hearing.
18	As a reminder, everyone should do their
19	best to avoid speaking over one another by taking
20	proactive steps, like intentionally allowing for a
21	pause at the end of their questions to witnesses, and
22	generally slowing down in order to allow for
23	connectivity lags and objections from counsel.
24	During their testimony, witnesses will
25	have access only to the filings in this case as well

1 as other documents that have been identified as 2 potential exhibits that have already been exchanged 3 amongst the parties and shared with the Bench. Witnesses should not have access or seek other 4 5 information in other documents. And it's important 6 that the witnesses not attempt to communicate with --7 through other means with anyone privately during 8 their particular testimony.

9 Now, one thing that I would like to 10 ascertain at this point in time is whether or not 11 there is going to be a need for a closed record at 12 some point in time during the proceeding. I'm aware 13 of the fact that I believe Ms. Pirik, you had filed an exhibit that will now allow for the safety manuals 14 15 to have a public version that would be able to be 16 utilized for the purposes of cross-examination in 17 this particular proceeding; is that correct?

MS. PIRIK: Yes, your Honor, we did. And we have not heard that there was additional information needed but Mr. Van Kley may be able to address that.

ALJ AGRANOFF: Mr. Van Kley, could you confirm that what you have is now acceptable for the purposes of having your cross-examination take place on the public record?

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	19
1	MR. VAN KLEY: So far as I can tell
2	currently, that is the case. The versions of the
3	safety manuals that I plan to use are the public
4	versions and I do not currently anticipate the need
5	to use any confidential information.
6	ALJ AGRANOFF: Okay. Are any other
7	counsel aware of a situation for which we would be
8	required to go into a closed record for the purposes
9	of any cross-examination?
10	Okay. Hearing none, then we will work
11	off of the assumption that everything that we'll be
12	doing will be indeed on the public record today.
13	Now, this is going to be a multi-week
14	hearing based on the schedule that has been agreed
15	upon by counsel and the parties. And as that
16	schedule reflects, we will be working on a daily
17	basis through the witnesses that have been identified
18	on the schedule for a specific day.
19	Now, I do know that we had talked about
20	the fact that beginning on Wednesday, we would begin
21	to, in essence, slot Staff witnesses in at least one
22	a day.
23	At this point in time, Mr. Margard, has
24	there been a discussion as to specific witnesses and
25	specific days that they would be allocated to?

1	MR. MARGARD: Yes, your Honor. As we've
2	informed the parties, we anticipate for convenience
3	sake, if nothing else, proceeding with Staff
4	witnesses in alphabetical order, so that would mean
5	Mr. Bellamy, Mr. Conklin, Mr. Conway, et cetera, and
6	we are anticipating being able to follow that
7	sequence.
8	That said, your Honor, I did learn on
9	Friday, for example, that a number of the Staff
10	witnesses would be unavailable on Tuesday, the 13th,
11	in the morning because of a site visit. Staff, of
12	course, does have their regular duties and
13	responsibilities to conduct during the course of the
14	hearing. And it may be that a witness is unavailable
15	unexpectedly.
16	We are trying to stay as on top of their
17	availability as possible, and currently we don't
18	anticipate any other instances other than the ones
19	I've previously identified to the parties so we'll
20	we'll try to make sure we have them available in
21	sequence.
22	ALJ AGRANOFF: Okay. And if you could
23	then each day prior to when a particular Staff
24	witness is supposed to be testifying, let us know
25	that here is what the upcoming next-day schedule will

	21
1	be for Staff relative to their witness availability.
2	MR. MARGARD: We will do that, your
3	Honor. And it's our expectation we will have a
4	witness in case some cross-examination either
5	concludes earlier than anticipated or because of
6	unavailability, so we'll always anticipate having a
7	next witness identified as well.
8	ALJ AGRANOFF: Okay. Greatly
9	appreciated.
10	With respect to how we will proceed on a
11	daily basis. Today obviously we began at 10 o'clock.
12	For each subsequent day of this hearing, it's our
13	expectation that we are going to begin at 9 o'clock
14	each day in order to help assure that we stay on
15	schedule as previously agreed upon by the parties.
16	We'll take a one-hour lunch break, and
17	basically as to when that particular lunch hour will
18	begin, we're going to, you know, wait and see each
19	day as to when an ideal breaking point will be and
20	we'll take that break accordingly once we identified
21	that particular point in time.
22	With respect to the order of
23	cross-examination of witnesses, since it appears that
24	the only parties who have not agreed with the
25	proposed Stipulation are Mr. Van Kley's local

1	residents and the Black Swamp Observatory, therefore
2	with respect to the Company witnesses that have been
3	identified in this case, Mr. Van Kley will be the
4	only counsel that would be engaging in
5	cross-examination of those particular witnesses.
6	And then with respect to the other
7	witnesses in this particular case, we'll we'll
8	allow the obviously with respect to the Black
9	Swamp Observatory witnesses, the local residents, all
10	of the other parties would have the opportunity to
11	cross-examine those particular witnesses.
12	Is that clear as to how we are going to
13	proceed relative to cross-examination?
14	As I had discussed with the court
15	reporter, Ms. Gibson, before we actually went
16	formally on the record, it would probably make sense
17	that the following day if you could please send all
18	of the admitted exhibits to the court reporter so
19	that she then would have the most current and
20	accurate listing of all those exhibits and be able to
21	keep them tracked in the most efficient manner. If
22	you could e-mail those exhibits to her at
23	kspencer@aando.com. So that's the letter A, then
24	A-N-D, the letter O, .com.
25	Before we actually begin with the

1 testimony that is scheduled for today and that is
2 Mr. Pedder, I believe is the sole witness that we
3 have on our schedule for today's proceeding, I wanted
4 to kind of clean up any pending matters that we
5 currently had that was in need of ruling. So we will
6 deal with that at this point in time.

7 And specifically I know that Ms. Pirik, 8 you had sent and docketed a letter on the -- let's see the date -- the 24th of September where I believe 9 10 you were basically trying to account for the filing 11 of the redacted safety manuals to then incorporate 12 that filing in the context of the pending motions 13 that we have for protective treatment. Is that 14 I think, Ms. Pirik, you have to turn your correct? 15 mic on.

MS. PIRIK: Yes, your Honor.

16

Okay. And I just wanted 17 ALJ AGRANOFF: 18 to make sure that your records and what I had in 19 front of me matched just so that we didn't have any 20 unresolved motions after this particular filing. I know that you referenced the January 31, July 10, 21 22 September 12 motions of 2019 that pertain to the 23 safety manuals. And then you also had an October 4, 24 2019, and I couldn't find the October 4 motion but I 25 had November 26, 2019, and a February 11, 2020. Do

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1 you have those filings as well that pertain to the 2 safety manuals? If you have to go back and check, 3 that's perfectly fine. We can deal with this at a later point in time. 4 5 MS. PIRIK: I think that might be a good idea just so that I can, you know, look at everything 6 7 and then give you a better response. 8 ALJ AGRANOFF: Okay. That would be perfect. Yeah, if you can just check, I think there 9 10 was -- again, I couldn't find the October 4, 2019, but again, November 26, 2019, and February 11, 2020, 11 12 I think had turbine safety manual issues raised in 13 them. 14 And then with respect to the financial 15 information that had previously been requested protective treatment, I assume those requests are 16 17 still in need of ruling as well? 18 MS. PIRIK: Yes, your Honor. 19 ALJ AGRANOFF: Okay. And just so that we 20 make sure that we're not missing anything, I had January 31, 2019, that dealt with the financial 21 22 issues as well as the February 11, 2020. So if you could confirm on your end that that is what you have 23 24 as well, that would be helpful. 25 MS. PIRIK: We will do that. Thank you.

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	25
1	ALJ AGRANOFF: Thank you.
2	And then the only other pending motion
3	that I saw was the motion for pro hac vice relative
4	to Mr. Brian Knox.
5	MS. PIRIK: That's correct, your Honor.
6	ALJ AGRANOFF: And I think that was filed
7	on July 1 of 2020. And with respect to that
8	particular motion, it shall be granted and Mr. Knox
9	can participate in this proceeding.
10	MS. PIRIK: Thank you, your Honor.
11	ALJ AGRANOFF: You're welcome.
12	Okay. Is there anything else before we
13	begin with today's testimony that any counsel or
14	Mr. Williams that you believe we need to speak about?
15	ALJ WILLIAMS: I think you did a very
16	thorough job of getting us started, Jay.
17	ALJ AGRANOFF: Thank you. And with that
18	I'll turn it over to you.
19	MR. SECREST: Thank you, your Honors. If
20	I may pose a question. John Secrest on behalf of the
21	Applicant. We obviously have direct testimony
22	prefiled and we've accounted for cross-examination
23	exhibits through the prehearing order and exchange of
24	those exhibits. How does the Bench want to deal with
25	the potential redirect exhibits? Frankly, I don't

	26
1	know what, if any, those will be until
2	cross-examination has been completed or during the
3	course of cross-examination. So what's the process
4	the Bench would like for us to, one, introduce those
5	and, two, get those in the hands of everybody
6	including the court reporter?
7	ALJ WILLIAMS: Have they been distributed
8	already?
9	MR. SECREST: No, they have not, your
10	Honor.
11	ALJ AGRANOFF: Why don't we wait until we
12	get to that first point where that particular issue
13	may become relevant and at that juncture we can then
14	ascertain the best way to deal with that on a
15	going-forward basis.
16	MR. SECREST: Fair enough. Thank you,
17	your Honor.
18	ALJ WILLIAMS: Any other preliminary
19	matters?
20	Okay. With that, we will invite the
21	Applicant to call their first witness.
22	MR. SECREST: Thank you, your Honor. May
23	the Applicant call Nate Pedder to the stand.
24	ALJ WILLIAMS: Good morning, Mr. Pedder.
25	THE WITNESS: Good morning.

	27
1	ALJ WILLIAMS: Can you hear me?
2	THE WITNESS: Yep.
3	ALJ WILLIAMS: Fantastic. Would you
4	raiser your right hand, please.
5	(Witness sworn.)
6	ALJ WILLIAMS: Please begin on direct.
7	MR. SECREST: Thank you, your Honor.
8	
9	NATHAN PEDDER
10	being first duly sworn, as prescribed by law, was
11	examined and testified as follows:
12	DIRECT EXAMINATION
13	By Mr. Secrest:
14	Q. Mr. Pedder, would you please state your
15	full name for the record.
16	A. Nathan Pedder.
17	Q. And by whom are you employed?
18	A. Apex Clean Energy.
19	Q. What is your business address?
20	A. I believe it would be 301 Fourth Street,
21	Suite 210, Charlottesville, Virginia.
22	Q. Thank you, Mr. Pedder. Do you have in
23	front of you what has been marked as Exhibit 31?
24	A. I do.
25	Q. Is that a true and accurate copy of your

28 1 prefiled direct testimony? 2 Α. Yes. 3 0. Do you have any changes or revisions to that testimony? 4 5 Α. No. MR. SECREST: Your Honor, Mr. Pedder is 6 7 sponsoring Exhibits 1 through 30 as well as 82. 8 Would you like those marked now or should I do that at the end of his examination? 9 10 ALJ WILLIAMS: Go ahead and mark them 11 now. 12 MR. SECREST: Your Honors, we've marked 13 as Exhibit 1, the Application filed on January 31, 14 2019. 15 Exhibit 2 is the Supplement to the 16 Application filed on March 18, 2019. 17 Exhibit 3 is the Second Supplement to the 18 Application. 19 Exhibit 4 is the Third Supplement to the 20 Application. 21 Exhibit 5 is the Revised Fourth 22 Supplement to the Application. 23 Exhibit 6 is Application part 8 of 17, 24 filed January 24, 2020. 25 Exhibit 7 is Response to First Set of

29 1 Interrogatories. 2 Exhibit 8, Response to Second Set of 3 Interrogatories. Exhibit 9, Response to Third Set of 4 5 Interrogatories. 6 Exhibit 10, Response to Fourth Set of 7 Interrogatories. 8 Exhibit 11, Response to Fifth Set of 9 Interrogatories. 10 Exhibit 12, Response to Sixth Set of 11 Interrogatories. 12 Exhibit 13, Response to Seventh Set of 13 Interrogatories. 14 Exhibit 14, Supplemental Response to 15 Sixth Set of Interrogatories. 16 Exhibit 15, Supplemental Response to Seventh Set of Interrogatories. 17 18 Exhibit 16, Response to Eighth Set of 19 Interrogatories. 20 Exhibit 17, Second Supplemental Response 21 to Seventh Set of Interrogatories. 2.2 Exhibit 18, Certificate of Service of the 23 November 15, 2018, Public Information Meeting, notice 24 on property owners and entities. 25 Exhibit 19, Proof of Publication of

	30
1	November 15, 2018, Public Information Meeting in the
2	"Sandusky Register" and the "Norwalk Reflector."
3	Exhibit 20 is Certificate of Service of
4	the April 3, 2019, Second Public Information Meeting,
5	notice on property owners and entities.
6	Exhibit 21, Proof of Publication of
7	April 3, 2019, Second Public Information Meeting in
8	the "Sandusky Register" and "Norwalk Reflector."
9	Exhibit 22, Certificate of Service of the
10	accepted, complete application on local public
11	officials and libraries.
12	Exhibit 23, Second Certificate of Service
13	of the accepted, complete application on local public
14	officials and libraries.
15	Exhibit 24, Third Certificate of Service
16	of the accepted, complete application on local public
17	officials and libraries.
18	Exhibit 25, Supplement to Third
19	Certificate of Service of the accepted, complete
20	application on local public officials and libraries.
21	Exhibit 26, Proof of Service of the
22	accepted, complete application on all local public
23	officials, libraries, and each owner of property
24	crossed and/or adjacent to the proposed facility
25	site, and Proof of Publication of the accepted,

1 complete application in the "Sandusky Register" and 2 the "Norwalk Reflector." 3 Exhibit 27, Proof of the Second Service of the accepted, complete application on all local 4 public officials, libraries, and each owner of 5 6 property crossed and/or adjacent to the proposed 7 facility's site, and Proof of Second Publication of 8 the accepted, complete application in the "Sandusky Register" and "Norwalk Reflector." 9 10 Exhibit 28, Proof of Service and Proof of 11 Publication in the "Sandusky Register" and "Norwalk 12 Reflector" that the procedural schedule has been 13 postponed, in accordance with the Administrative Law 14 Judge's March 11, 2020, Entry. 15 Exhibit 29, Proof of Service and Proof of 16 Publication in the "Sandusky Register" and "Norwalk 17 Reflector" that the procedural schedule has been 18 reestablished, in accordance with the ALJ's July 13, 19 2020, Entry. 20 Exhibit 30, Proof of Second Service and 21 Proof of Second Publication in the "Sandusky 22 Register" and "Norwalk Reflector" that the procedural schedule has been reestablished, in accordance with 23 24 the ALJ's July 13, 2020, Entry. 25 Exhibit 31 is the Prefiled Testimony --

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32 1 Direct Testimony of Nate Pedder. 2 And lastly, Exhibit 82 is the nonconfidential GE, Nordex, Siemens Gamesa, and 3 Vestas Safety Manuals filed September 24, 2020. 4 5 May I have all referenced exhibits 6 marked, your Honor? 7 ALJ WILLIAMS: So marked. Thank you, 8 Counsel. 9 (EXHIBITS MARKED FOR IDENTIFICATION.) 10 MR. SECREST: Thank you, your Honor. With that, I tender Mr. Pedder for cross-examination, 11 12 your Honor. 13 ALJ WILLIAMS: Thank you, Counsel. 14 MR. SECREST: Thank you. 15 ALJ WILLIAMS: Mr. Van Kley. 16 MR. VAN KLEY: Thank you, your Honor. 17 18 CROSS-EXAMINATION 19 By Mr. Van Kley: 20 Good morning, Mr. Pedder. My name is 0. Jack Van Kley. I represent the local residents and 21 2.2 the Black Swamp Bird Observatory. 23 Why don't we start off your cross-examination by talking a little bit about your 24 25 experience and background. If you could turn to the

33 1 résumé that you have attached to your written direct 2 testimony in Applicant Exhibit 31, I think that would help move our discussion along. 3 I am there. 4 Α. 5 Ο. Okay. So looking at your experience 6 starting after you graduated from college, it looks 7 like your first position was as a project developer 8 for Apex Clean Energy; is that correct? 9 Α. That's correct. 10 Okay. And you were in that position from 0. January 2016, to December 2018, correct? 11 12 Α. Correct. 13 What were your duties in that position? Ο. 14 My duties in that position were primarily Α. 15 project development work so I was working locally 16 with land leasing and permitting efforts on a number of projects as well as coordinating efforts among a 17 18 variety of subject-matter experts both internal and 19 external to Apex. 20 Did any of that work involve wind Ο. 21 projects? 2.2 Α. Yes. 23 Okay. Which wind projects did you work 0. on during that period of time? 24 25 During that period of time, I worked on Α.

34 1 Timbermill Wind, as well as Dakota Range I, II --2 yeah, Dakota Range I and II, and then briefly on the Bowman Wind Project. 3 Then you became a development manager for 4 Ο. 5 Apex Clean Energy; is that correct? 6 Α. Correct. 7 0. And you've been in that position since 8 January of 2019? 9 Α. Correct. 10 What have been your -- what have been 0. 11 your duties in that position? 12 Α. Largely the same as the previous role, 13 just more management responsibility and individual 14 ownership of projects. 15 Did any of that work involve wind 0. 16 projects? It did. 17 Α. 18 Okay. And during the period of time that Ο. 19 you were the development manager, did you work on any 20 wind projects other than the ones you've already 21 named with respect to your position as a project 22 developer? 23 Α. Yes. And what were the names of those 24 Ο. 25 projects?

35 1 Α. Would have been Honey Creek Wind, and 2 then this project, the Emerson Creek Project, and then I assisted on the Heritage Wind Project and 3 4 the -- yeah, that's it. 5 Ο. When did you start working on the Emerson 6 Creek wind project? 7 Α. Would have been -- let's see. T'm 8 trying -- I think it's been about two years. So it would have been early or mid 2018, I believe. 9 Ι 10 actually think, now looking at my résumé, I think I 11 have those dates wrong. 12 I think I was the project developer 13 through -- I was project developer for two years, so 14 that would have been January 2016 through 15 January 2017 rather than December 2018. And then in 16 January of 2018, I would have become development 17 manager. So the dates are wrong. But starting in 18 2018, I would have been working on the Timbermill 19 Project and then transitioned to Honey Creek Wind, 20 Emerson Creek Wind, and then briefly helped on the Heritage Wind Project. 21 22 Is there any difference in the nature of 0. 23 your duties as a project developer versus the duty 24 you have been undertaking as a development manager? 25 Α. Largely, no.

	36
1	Q. Now, when you started working on the
2	Emerson Creek wind project, what was the status of
3	the project at that time? Was it just beginning or
4	was it already underway as to its development?
5	A. It was underway in its development.
6	Q. Okay. For how long of a period had it
7	been in under development by the time you started
8	working on it?
9	A. I believe it was I believe development
10	started on the Emerson Creek project around 2010.
11	Q. So generally speaking, what work had
12	already been finished on the Emerson Creek wind
13	project by the time you started working on it?
14	A. By the time I started working on the
15	Emerson Creek wind project, leasing had been underway
16	as well as a variety of studies as well as agency
17	coordination.
18	Q. Have you been involved at all in
19	negotiating leases with participating landowners for
20	the project?
21	MR. SECREST: Objection, vague.
22	ALJ WILLIAMS: I'll let him answer.
23	A. What do you mean by "negotiating"?
24	Q. Have did you have any discussions
25	with with landowners about signing leases for the

37 1 Emerson Creek wind project? 2 Α. Yes. Okay. And what involvement did you have 3 Ο. 4 in that regard? 5 Α. I would reach out to landowners and 6 answer questions regarding the project and work with 7 them towards a decision on whether they would sign a 8 lease or not. 9 Are you familiar with the leases that Ο. 10 have been signed by participating landowners? 11 Largely, yes. Α. 12 Ο. To your knowledge did any of those leases 13 prohibit the participating landowners from discussing 14 their leases with other people such as their 15 neighbors? 16 Α. No. When was the first time that the Emerson 17 Ο. 18 wind -- or the Emerson Creek wind project was 19 announced to the public? 20 I don't know a firm date, but I'm aware Α. 21 that we met with county official -- like county 2.2 commissioners as well as township trustees throughout 23 the early stages of development so I believe that 24 would have probably started perhaps in 2012. 25 Were those meetings with the local Ο.

1	government officials held as public meetings or
2	private meetings?
3	A. I believe those were held publicly. I
4	don't have a firm date off the top of my head. I
5	believe some of that information is included in the
6	Application.
7	Q. Let's talk a little bit about some of the
8	issues that my clients have raised in this
9	proceeding.
10	MR. VAN KLEY: And for the record, Judge
11	Williams, my cross-examination of Mr. Pedder would be
12	on behalf of both the Black Swamp Bird Observatory
13	and the local residents; although, the Black Swamp
14	Bird Observatory is interested primarily in wildlife
15	issues and not necessarily some of these other
16	issues.
17	Q. Let's talk a little bit about the issues
18	and I would like to start with a discussion about
19	T.V. reception. Do you have Exhibit No. 1 for the
20	Applicant in front of you?
21	A. Would that be what is the title of
22	that exhibit?
23	Q. That would be your Exhibit No. 1 which is
24	the narrative portion which is the Application.
25	A. Okay. Yes.

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	39
1	Q. Okay. And once you have that in front of
2	you, go to page 101.
3	A. Okay.
4	Q. All right. Actually let's go to page 100
5	to start with.
6	A. Okay.
7	Q. I would like to refer you to the second
8	paragraph on that page.
9	A. Okay.
10	Q. And specifically the last sentence states
11	"Based on the 10 percent criteria described above, up
12	to 233 households may be affected to varying
13	degrees." Do you see that?
14	A. Yes, I do.
15	Q. Now, Firelands had T.V. reception
16	evaluated by a company called Evans Engineering; is
17	that correct?
18	A. Yes.
19	Q. And Evans Engineering did a study to
20	determine how many households would potentially be
21	affected in their T.V. viewing by the turbines; is
22	that correct?
23	A. That's generally my understanding of the
24	analysis that they conducted, but Ben Evans, from
25	Evans Engineering, will be testifying later and he

40 1 will be able to answer those specifics. 2 Now, did -- after Evans Engineering Ο. provided its evaluation to Firelands, did Firelands 3 change any of its turbine layout as a result of the 4 5 information submitted by Evans Engineering? I cannot recall specifically if we did or 6 Α. did not. I -- no. 7 8 Do you have a copy of the Stipulation 0. that has been entered in this case and marked as 9 10 Joint Exhibit No. 1? 11 Α. I do. 12 Ο. Okay. Great. Would you go to page 9 of that Joint Stipulation, paragraph 38. 13 14 Α. I'm sorry. Which paragraph did you say? 15 38. Ο. 16 Α. Okay. 17 All right. Now, paragraph 38 talks about 0. 18 some commitments that Firelands would make if there 19 is interference with T.V. reception; is that correct? 20 Α. That would be my understanding of the 21 proposed condition No. 38. 2.2 Uh-huh. Has Firelands, in signing this Ο. Stipulation or in its Application, made any 23 24 commitment to pay for installing cable T.V. for any 25 neighbors whose T.V. reception is impaired by the

1 turbines?

2	A. I believe that somewhere in the
3	Application, if not specifically, it is stated in
4	this condition, we have made that a similar
5	commitment. I don't believe it was specifically for,
б	you know, cable, but it may have been for satellite
7	reception so sort of dish.
8	Q. The satellite reception that you are
9	talking about is is for something other than
10	television; is that correct?
11	A. No. I believe the cable, it depends on
12	the location as to availability but I believe the
13	commitment was for something to that equivalency so
14	whether it's Dish Network, Comcast, whatever would be
15	available and best suit that location.
16	Q. Uh-huh. If if a neighbor needs to
17	have cable T.V. in order to replace the digital
18	reception that's impaired by the turbines, has
19	Firelands made a commitment to pay the monthly
20	subscription fees for that cable T.V. service?
21	A. I believe we have and, if not, we commit
22	to that. That would all be covered under the
23	complaint resolution and so, yes, if those issues
24	were to occur, we would we have an established
25	complaint resolution process that was included in the

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1 Application. 2 Let's move on to another issue concerning Ο. wildlife. Let's talk first about bald eagles. 3 То your knowledge, has Firelands ever asked 4 5 participating landowners to inform Firelands about 6 any eagles sighted in the project area? 7 Α. To my knowledge, we have not requested 8 that. 9 To your knowledge, has Firelands asked Q. 10 the participating landowners to report any eagle 11 nests present in the project area? 12 Α. To my knowledge, we have not requested 13 that. 14 Has Firelands, to your knowledge, Q. 15 received any information from participating 16 landowners about eagles in the project area? 17 Yes and no. Α. 18 What about eagle nests? Has Firelands 0. 19 received any information from participating 20 landowners concerning the presence of eagle nests in 21 the project area? 2.2 Α. Yes and no. 23 Ο. Okay. Would you explain that answer, 24 please? 25 We had a landowner that approached Α. Yes.

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1 us with what he believed was a bald eagle nest and so 2 we sent out wildlife and biology experts to go 3 observe the nest and determine what type of nest it was, and it was determined to be a red-tailed hawk 4 5 nest. Can you tell me where that nest was 6 0. 7 located approximately? 8 Maybe if I had a map in front of me. Α. The exact locations of those would best be left to the 9 10 wildlife experts. They will be able to discuss the 11 locations of all nests. 12 Ο. So you don't recall by memory where it was located? 13 14 Not -- not without a map. Α. 15 Has Firelands had any conversations or 0. 16 other communications with U.S. Fish and Wildlife 17 Service about eagles in 2020? 18 I'm sorry, could you repeat the question? Α. 19 I think I missed that. 20 Ο. Sure. Has Firelands had any 21 communications with the U.S. Fish and Wildlife 2.2 Service about eagles in 2020? 23 Α. Yes. What was -- what was the subject matter 24 Ο. 25 of these conversations generally speaking?

	44
1	A. I would probably defer those specifics
2	of those conversations to the wildlife experts as
3	they are the most informed on what was involved with
4	those. I believe we may have had a meeting with them
5	in February and discussed some some findings and
6	some next steps.
7	Q. Okay. Did you participate in that
8	discussion with the U.S. Fish and Wildlife Service?
9	A. I was at maybe half of that meeting. I
10	had to step out. I had a different meeting to go to.
11	Q. What are the names of Firelands' wildlife
12	experts that have been involved in discussions with
13	U.S. Fish and Wildlife Service about eagles in the
14	year 2020?
15	A. I'm not sure which specific external
16	consultants were involved directly in those
17	communications. But internally to Apex, Jennie
18	Geiger would have been involved in those
19	conversations.
20	Q. Do you know if Rhett Good was involved in
21	those conversations?
22	A. Not off the top of my head.
23	Q. Okay. How about Chris Farmer, was he
24	involved in those conversations?
25	A. Not off the top of my head.

1 0. Did the conversations occur in -- or 2 conversation occur in 2020, include a discussion about Firelands applying for a take use permit for 3 4 eagles? 5 Α. I would defer the specifics of those 6 conversations to some of the wildlife experts. 7 Well, do you know the answer to the 0. 8 question? I believe we would have discussed with 9 Α. 10 them an Eagle Conservation Plan and so I believe that 11 that would involve potentially a take permit. I am 12 not always sure on some of those specifics. 13 Uh-huh. Do you know whether Firelands 0. 14 has submitted an application for a take use permit 15 for eagles? 16 Α. Not that I'm aware of, no. Do you know whether Firelands intends to 17 Ο. 18 submit such an application? 19 Α. I believe one of the conditions in the 20 Stipulation -- may I refer to the Stipulation to tell 21 you which condition? 2.2 Ο. Sure. 23 I believe condition No. 31, we commit to Α. 24 apply for an Eagle Take Permit. 25 At this point in time does Firelands have Ο.

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1 any expectation as to when it will be submitting such 2 an application? I believe with that condition, if I may 3 Α. refer to it again, we applied to -- we commit to 4 applying for an Eagle Take Permit from the U.S. Fish 5 6 and Wildlife prior to the project becoming 7 operational. 8 And what's your current expectation as to 0. when you think the project would become operational? 9 10 That will depend largely on the Α. resolution of this hearing and the timing of 11 12 receiving that certificate. 13 Would you go back to Applicant Exhibit Ο. 14 No. 1, which is your permit application, and you find 15 Exhibit K to that application, that application. 16 Yes. Give me a moment. I don't believe Α. I have binder No. 3. Sorry. Yes, I have -- I 17 believe I have a copy of Exhibit K in front of me. 18 19 Q. Okay. Great. Go to Exhibit K which is 20 the U.S. Fish and Wildlife Service and ODNR correspondence. 21 2.2 Α. Uh-huh. And I would like you to find the meeting 23 Ο. summary for October 18, 2018, between ODNR and U.S. 24 Fish and Wildlife Service and Firelands. 25

47 1 ALJ WILLIAMS: Attorney Van Kley, I have 2 got these exhibits and K listed 1 through 12 in the 3 advanced file. Do you know what number you are in? It would be No. 1. 4 THE WITNESS: 5 ALJ WILLIAMS: Thank you. MR. VAN KLEY: Yes, yes, Applicant's 6 7 Exhibit No. 1. For those of you who are looking at 8 the online version at the Power Siting Board website, if you go to part 6 of 17, you will find that 9 10 Exhibit K. I'll get there and I will tell you what 11 PDF page. It's PDF page 886. 12 ALJ WILLIAMS: Okay. 13 Okay. I believe I am -- I am there. Α. 14 Okay. Great. Did you find -- is there Ο. 15 an e-mail from Keith Lott to Rhett Good and Kevin 16 Davis, dated June 9 -- June 9, 2010? 17 Α. I'm sorry. So not the October 18, 2018, 18 meeting summary? 19 Q. Yes. It's in that summary. 20 Α. I don't see it in that summary. I can look through Exhibit K and see where that is. 21 You 22 said it was from Keith Lott to Rhett Good? 23 Ο. Yes. 24 Α. I believe you are referring to actually -- hold on a second. Let me figure out what 25

48 1 the beginning of this section was. No. 6 of Exhibit 2 K, February 22, September 17? And then from there --3 John, can you go on mute? From there I believe it would be probably 4 5 about 10 pages in. It's after the ODNR report. I am 6 not sure exactly what this is. It looks like a 7 series of pages from ODNR and then the first e-mail 8 there, June 9, 2010, from Keith Lott to Rhett Good, is that what you are referring to? 9 10 Yes. You found it, uh-huh. 0. 11 MR. SECREST: So we are on page 12 of 12 Exhibit 8 of K6. 13 THE WITNESS: That sounds correct to me. 14 MR. VAN KLEY: I am looking at the online 15 version and it's page 886 of part 6 of 17 parts, and 16 you are correct, I gave you the wrong heading name. It should have been 6, February 22, 2017, Survey 17 Recommendations of ODNR. I believe that's the 18 19 heading for the documents in which the page that I 20 want to ask you about appears. ALJ WILLIAMS: I think he is there. 21 Go 22 ahead. (By Mr. Van Kley) Okay. So referring you 23 Ο. to the e-mail of June 9, 2010, from Keith Lott to 24 25 Rhett Good and Kevin Davis, I am just going to read

1 the text of that e-mail to you and then I will have a 2 question to you about it. 3 The e-mail states: "Attached are the Division of Wildlife survey recommendations for the 4 5 Emerson project. Please review, if you have any 6 questions please feel free to give me a call. As for 7 Seneca Caverns, this is a commercial cave, there may 8 be a few bats that over winter within it. But similar to Ohio Caverns, it is not considered to be a 9 10 hibernacula. Given that we know there are karst 11 regions within the area, I would suggest contacting 12 leased landowners to inquire about whether there are 13 any caves within the region. If so, I would 14 recommend surveying those to see if they are being 15 used by bats." Did I read that correctly? 16 Α. It appears so. 17 Ο. Okay. So my question to you, and I 18 understand I didn't -- that you were not involved in 19 this project at this time, but to your knowledge, did 20 Firelands ever ask participating landowners to inquire about whether there were any caves in the 21 2.2 region? 23 Α. I am unaware. 24 Do you know whether there are any caves Ο. 25 in the project area?

	50
1	A. I do not believe so.
2	Q. To your knowledge, has Firelands ever
3	asked the participating landowners to report any bat
4	roosts present in the project area?
5	A. I do not believe so.
6	Q. To your knowledge, has Firelands received
7	any information from anyone concerning bat roosts in
8	the project area?
9	MR. SECREST: Objection, vague as to
10	"anyone."
11	MR. VAN KLEY: "Anyone" means any person.
12	That's what I am asking about.
13	ALJ WILLIAMS: I will let him answer and
14	explain.
15	A. Not that I'm aware of.
16	Q. Has Firelands had any conversations or
17	other communications with U.S. Fish and Wildlife
18	Service about bats in the year 2020?
19	A. Specifically about bats, I am not sure.
20	I believe we would have included an overview of that
21	in our discussion with them earlier this year, but I
22	can't be sure. I would leave that to the experts to
23	be able to talk about that.
24	Q. Does Firelands have any plans to apply
25	for a takings permit for Indiana bats for its

1 project? 2 As far as -- as far as impacts in our Α. plans, I would leave that to the experts to be able 3 to talk about that. I'm not aware. 4 5 Ο. And who are those experts that would have 6 that knowledge? 7 Α. I believe Rhett Good would be the one 8 primarily speaking on that. 9 Do you believe Mr. -- do you believe that Ο. 10 Mr. Good would know about whether Firelands has the 11 intent to apply for a takings permit for the Indiana 12 bat? I believe he would be aware. 13 Α. Yes. 14 Does Firelands have the intent to conduct 0. 15 post-construction monitoring for bird or bat 16 fatalities at the Emerson Creek wind project after it 17 is in operation? 18 Α. I believe that post-construction 19 monitoring -- may I look at the Stipulation? 20 Ο. Yes, you may. 21 I believe post-construction monitoring is Α. 2.2 considered in the Stipulation. Give me a moment. Т believe it's in here. I am not exactly sure where. 23 I would refer to Rhett Good and Chris Farmer. 24 Ι 25 believe they will best be able to answer questions on

1 plans for post-construction monitoring. 2 Ο. Uh-huh. Does Firelands plan to make its 3 mortality data available to the public? I am unaware if we will or will not. 4 Α. We 5 will be following the rules and regulations of U.S. 6 Fish and Wildlife and ODNR and OPSB applicable. 7 Uh-huh. Well, if -- if ODNR and U.S. Ο. 8 Fish and Wildlife do not prohibit the release of this information to the public, is it Firelands' intent to 9 10 make that data public? 11 So I -- if they are not requiring it to Α. 12 be public, I suspect not. Let's move on to a different topic. 13 0. 14 Let's talk about turbine foundations. Would you 15 describe for me the size of the foundations that will 16 be built for the turbines. 17 Α. Sure. The foundations planned for the 18 turbines are spread footer foundations and so those 19 will be about somewhere in the range of 60 to 80 feet 20 probably in diameter. They'll extend about 10 feet 21 below the surface. 2.2 As a spread footer foundation starts 23 closer to directly underneath the turbine, they will be closer to the surface level, and then by the time 24 25 they get out to the edge of that foundation, I

	53
1	believe they'll be, I want to say somewhere in the
2	range of 6 feet below the surface.
3	Generally a spread footer foundation
4	starts closer to the surface I suppose the court
5	reporter won't be pleased if I talk with my hands
6	and slopes down towards the outer edge of that
7	diameter.
8	Q. Has Firelands commissioned any field work
9	that has identified the depth to the groundwater
10	table in the areas where it wants to put its
11	turbines?
12	A. I believe so.
13	Q. Can you tell me how far below the surface
14	of the ground it has been found that the groundwater
15	table exists?
16	A. I could probably tell you approximately.
17	Q. Okay. What's the shallowest that to
18	your recollection that groundwater has been found
19	below the surface?
20	A. It's my recollection it would be
21	somewhere in the 5 to 10 foot depth. As for
22	specifics on that, I would defer to Witnesses Alfred
23	Williams and Ralph Corzatt.
24	Q. In situations where a turbine foundation
25	is being dug and groundwater is encountered, what is

54 1 the typical procedure that is followed by a wind 2 company in order to address that groundwater? I believe pumping is used to remove 3 Α. 4 water. 5 0. So the hole is dewatered? 6 That's my general understanding. Α. 7 Are you aware of any sinkholes in the Ο. 8 project area? 9 Α. Yes. 10 Ο. How many are you aware of? I am not aware of a specific number. 11 Α. 12 0. Have you personally seen any of these sinkholes in the project area? 13 14 Α. No. 15 How did you become aware of those 0. 16 sinkholes? 17 Α. I have been made aware by citizens in and 18 near the project area. 19 Now, Firelands has conducted borings in Q. 20 the project area at some of the turbine sites; is that correct? 21 22 The majority of those turbine sites, Α. 23 correct. 24 Q. And have those borings discovered the existence of bedrock at an elevation less than 10 25

55 1 feet from the surface at any of those locations? 2 I'm not sure. That -- the results of Α. 3 those borings, the bedrock depth, would be a question best left to Witness Alfred Williams. 4 5 0. Are you aware of any plans that Firelands has to conduct blasting of bedrock in order to 6 7 install any of its turbines? 8 We have no plans for that at this time. Α. Has Firelands ruled out the use of 9 0. 10 blasting for that purpose? 11 I do not believe so. Can you hear me? Α. 12 0. Yes. 13 Did you hear my answer on that? Α. 14 I did, yes, thank you. Q. 15 MR. SECREST: Thank you. 16 All right. Let's go to page 8 of your Ο. written direct testimony which was marked as 17 18 Applicant Exhibit 31. 19 Α. Okay. 20 I would like you to go to the fourth Ο. 21 bullet point on that page which discusses shadow 2.2 flicker. 23 Α. Yes. 24 Ο. All right. And looking through the 25 testimonies that have been filed for other people who

56 1 are going to be testifying for Firelands in this 2 hearing, I don't see that any of the other witnesses 3 have submitted any testimony about shadow flicker. Am I right about that or am I mistaken? 4 5 Α. You are correct. 6 Okay. All right. So I want to ask you 0. 7 some questions about shadow flicker then. 8 Α. Okay. 9 All right. First of all, let's get a 0. 10 little bit of background about your experience with 11 shadow flicker. Have you ever performed personally a 12 shadow flicker study? 13 Not personally, no. Α. 14 Do you have any formal training in the 0. 15 analysis or evaluation of shadow flicker? 16 Personally, no. Α. 17 Ο. Okay. Have you ever done a model to 18 evaluate the amount of shadow flicker that a source 19 of flicker would produce? 20 Α. Personally, no. 21 Do you know why it's called a flicker? Q. 22 I believe it would refer to the Α. alteration of shadow to sunlight when a receptor has 23 24 a turbine that is spinning between it and the sun. 25 Uh-huh. So it creates an appearance of a 0.

57 1 flickering light; is that accurate to say? 2 Α. Yes. 3 And shadow flicker can go through Ο. windowpanes; is that correct? 4 5 Α. Yes. Or if a person is outdoors, a person 6 0. 7 could experience shadow flicker from a source nearby? 8 Α. Correct. 9 Have you personally ever lived in a Ο. 10 property affected by shadow flicker from a wind 11 turbine? 12 Α. Personally, no. 13 So you have no personal experience about Ο. how it feels to be subjected to shadow flicker? 14 15 Α. I have been near a turbine and have 16 experienced shadow flicker. 17 But not -- you haven't experienced it at Ο. 18 a location where you are living? 19 Α. Correct. 20 Would you go to -- back to the 0. 21 Application, to the narrative part of the 22 Application, page 86. 23 Just give me -- give me a moment here. Α. 24 I'm sorry. You said page 86? 25 I did, yes. But it looks like I gave you Ο.

58 1 the wrong page number. Just a second. 2 All right. I should have referred you to page 90 where the discussion about shadow flicker 3 4 starts. 5 Α. Okay. 6 All right. Starting on page 90, we have 0. 7 a discussion in the Application about shadow flicker, 8 correct? 9 Α. Yes. 10 Now, going to page 91, I would like to 0. 11 refer you to the second bullet point on that page. 12 Α. Yes. And it refers to the latitude and 13 Ο. 14 longitude coordinates of 1,495 potential sensitive 15 receptors located within the 10-rotor diameter, 16 1,500 meter. Do you see that? Uh-huh. 17 Α. 18 Okay. Yes, right? 0. 19 Α. Yes. 20 Okay. Yeah. All right. So let me first Ο. 21 ask you whether you know how far shadow flicker from 2.2 a wind turbine will travel. 23 Shadow flicker from a wind turbine Α. 24 dissipates over distance. I would have to refer to 25 the study to know that exact distance. But I believe

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1	beyond roughly 10-rotor diameters there it's
2	negligible. But as you get further from the turbine,
3	I believe those impacts dissipate due to atmospheric
4	conditions.
5	Q. Did Firelands model their shadow flicker,
6	the shadow flicker that potentially could go beyond
7	1,500 meters from the turbine?
8	A. I would have to refer to the study itself
9	as well as any updated study materials.
10	Q. All right. Why don't you go to the study
11	itself then which is also part of the Application.
12	And I believe that would be Exhibit H of the
13	Application that is marked as Applicant Exhibit 1.
14	A. Yep. Give me one second.
15	Q. We will give everybody else the time to
16	find it as well.
17	A. Okay.
18	Q. All right. Do you see anything in
19	that first of all, let's just identify the report.
20	Exhibit H, entitled "Shadow Flicker Report" is the
21	report that was prepared for Apex Clean Energy for
22	the Emerson Creek wind project, correct?
23	A. For the January 31, 2019, submission,
24	correct.
25	Q. Uh-huh. And is the information in the

	60
1	Application, starting on page 90 of the narrative,
2	based on information in Exhibit H?
3	A. I believe so, yes.
4	Q. Is there anything in Exhibit H indicating
5	that any shadow flicker beyond 1,500 meters got
6	modeled?
7	A. I believe Figure 3 shows the shadow
8	flicker wings in that exhibit, and it shows the
9	distance at which shadow flicker is expected to
10	extend beyond the turbines, and so it appears that
11	modeling of the shadow flicker extends to the extent
12	of the shadow flicker.
13	Q. Okay. Tell me again where you found that
14	information.
15	A. Figure 3.
16	Q. In Exhibit H?
17	A. Yes.
18	Q. Okay. On what page is Figure 3?
19	A. It does not have a page number. Give me
20	one second and I can ballpark it for you. The report
21	ends on page 18 and then it's the third figure and
22	the figure begins right after that, so it would be
23	22, I believe.
24	Q. Is this a map of the project area?
25	A. Yes.

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1 0. Okay. All right. And so tell me again 2 where you see information on Figure 3 about the distance at which the modeling was occurred -- was 3 conducted. 4 5 Α. Figure 3 shows the expected shadow 6 flicker wings, and so it shows the extent at which 7 impacts are anticipated. And so you can see at the 8 bottom, the legend shows what each of those results are, and so you can generally see where those wings 9 10 extend to. 11 Okay. Going back to the narrative of the Ο. 12 Application marked as Applicant's Exhibit No. 1, go 13 to page 92. 14 Α. Okay. 15 All right. And according to the 0. 16 information here, the wind project, as modeled at the time that this information was obtained, showed that 17 18 112 sensitive receptors may be affected for more than 19 30 hours of shadow flicker per year, correct? 20 Α. Correct. 21 And what's the definition of a "receptor" Ο. 22 as used on this page? 23 A receptor is, I believe, a residence or Α. 24 any type of occupied dwelling. 25 And according to the modeling done at the Ο.

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62 1 time that this report was written, 55 of the 112 2 receptors were nonparticipants; is that right? 3 Α. That appears so, correct. Have other modeling reports been 4 Ο. 5 submitted for this wind project as part of the 6 Application or Supplemental Applications? 7 Α. Are you asking --8 MR. SECREST: Objection. Relating to shadow flicker? 9 10 MR. VAN KLEY: Yes. 11 Α. Yes. 12 Ο. Okay. How many other modelings have been submitted as part of the record for shadow flicker in 13 this case? 14 15 I believe there was one memo regarding Α. 16 shadow flicker, or it may have just been a paragraph, and then there was additionally one more study. 17 18 Uh-huh. What do you mean by the one 0. 19 paragraph? Can you explain that a little bit more? 20 I believe when submitting the -- one of Α. 21 the Application's supplements that included the 22 Vestas V150 nameplate capacity upgrades as well as the Nordex N149 nameplate capacity upgrades, a --23 24 either a paragraph or memo was included to explain 25 that no dimensions on those turbines had changed so

63 1 that no shadow flicker results had changed. 2 Okay. So other than that one paragraph 0. about shadow flicker, there's only one other 3 additional shadow flicker report submitted as part of 4 5 the Application in this case? That I can remember at this time. 6 Α. 7 Ο. Okay. And to the best of your 8 recollection, did the additional shadow flicker 9 report supercede the report that we've been 10 discussing on pages 90 through 92 of the original 11 application, or was it a supplemental? 12 Α. I believe it was supplemental. Uh-huh. So the information about shadow 13 Ο. 14 flicker modeling that we see in the narrative of the 15 Application on pages 90 through 92 of Applicant's 16 Exhibit 1 is still applicable to the project; is that 17 correct? 18 For these turbines, correct. Α. 19 Ο. Yeah. And later Firelands added 20 additional shadow flicker information concerning 21 additional turbine models that were being considered; 2.2 is that correct? 23 Α. Correct. So our discussion then about the shadow 24 Ο. 25 flicker study discussed on pages 90 through 92 of the

1 narrative of the Application marked as Applicant's 2 Exhibit No. 1, let me ask you a few more questions 3 about that study. 4 Α. Okay. In coming up with the number of potential 5 0. 6 minutes of exposure to shadow flicker for the 7 receptors, were trees considered in that modeling to 8 block any of the shadow flicker? 9 No. No blockage from trees or other Α. 10 buildings or other types of vegetation or structures 11 were considered in that study. 12 0. Uh-huh. Referring you to page 92 of the 13 narrative of the Application, I want you to go to the 14 second paragraph on that page. 15 Uh-huh. Α. 16 And look for a sentence that starts on 0. 17 the fourth line of that paragraph starting with the 18 words "A receptor." 19 Α. Yes. 20 That sentence reads as follows: "A 0. receptor in this 'greenhouse' model is defined as a 21 22 one square meter area located one meter above ground; actual house dimensions are not taken into 23 24 consideration." Do you see that sentence? 25 Α. Correct.

65 1 Ο. Is it your understanding that all of the 2 shadow flicker studies performed for the Emerson Creek wind project have defined the receptor in this 3 4 manner? 5 Α. Yes, I believe all -- all of the shadow flicker studies that were conducted used this 6 7 conservative estimate for homes. 8 So does this assumption mean that the Ο. 9 receptor was assumed to be only 1 square meter in 10 size? 11 I believe 1 cubic meter, yes. Α. 12 Ο. Let's go to page 94 of the Application 13 marked as Applicant's Exhibit No. 1. 14 Yes. Page 49? Α. 15 Ο. Yeah. Actually let's go to page 95. 16 Okay. I'm there as well. Α. 17 0. All right. Allow me to refer you to the 18 last sentence on the bottom of that page starting 19 with the word "Furthermore." 20 Α. Yep. It states: "Furthermore, as indicated 21 Ο. 22 above, the Applicant will implement the necessary mitigation measures through operational design, 23 following the realistic shadow flicker analysis using 24 25 the specific turbine array for construction, to reach

1 shadow flicker compliance of 30 hours per year at all 2 nonparticipating receptors." 3 Α. Correct. Let me ask you first to identify the 4 Ο. 5 potential mitigation measures that Firelands may 6 undertake in order to reduce exposure to a shadow 7 flicker of 30 -- to no more than 30 hours per year. 8 Those operational measures would involve Α. some measure of curtailing, likely, as necessary, and 9 10 so if the final shadow flicker analysis were to find 11 a nonparticipating residence to be in exceedance of 12 that -- the model to be in exceedance of that 13 30 hours per year, then we are aware, through the 14 modeled results, what times those impacts would most 15 likely occur and so we would be able to be aware --16 since this analysis considered the turbines to be 17 continuously operating from sunrise to sunset, we 18 would be aware when we are operating what time it is 19 that we would be most likely to impact any residents. And then as for -- if we were to be exceeding that 20 30 hours per year, we would curtail so we would no 21 2.2 longer be operating that turbine to create a flicker 23 for that residence. Looking at the table numbered 08-4 24 Ο.

25 starting on page 93 of --

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67 1 Α. Yes. 2 -- the narrative of the Application, I Ο. see there that the right-hand column identifies the 3 approximate time of the day at which a receptor would 4 5 potentially be affected by flicker; is that correct? Those times are, I believe, 6 Yes. Α. 7 represented as a range since that will differ 8 depending on the month of the year and location of 9 the sun throughout the year. 10 So Firelands can tell, based on its Ο. 11 modeling, what time of the day a potential receptor 12 may be affected by flicker; is that correct? 13 Α. The modeling shows that, correct. 14 Can you think of any good reason why Ο. 15 Firelands should not be required to simply shut off a 16 turbine that is causing shadow flicker to be cast on a nonparticipating landowner's home? 17 18 MR. SECREST: Objection, vague. 19 ALJ WILLIAMS: I want to go ahead and 20 uphold the objection. Do you want to clarify that, 21 Attorney Van Kley? 2.2 MR. VAN KLEY: I think it's pretty clear. I am asking if there is any good reason why Firelands 23 24 can't shut off its turbines if they're casting shadow 25 flicker on a nonparticipating neighbor's house.

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1	ALJ WILLIAMS: You can answer if you are
2	able to.
3	THE WITNESS: I'm sorry, could you repeat
4	that question?
5	MR. VAN KLEY: Yeah.
6	Q. (By Mr. Van Kley) Can you think of any
7	good reason why Firelands could not shut off a
8	turbine that is casting a shadow flicker on the house
9	of a nonparticipating neighbor?
10	MR. SECREST: Objection, same objection,
11	your Honor, vague as to shut off, time period and
12	total and Mr. Van Kley's definition of "good reason."
13	ALJ WILLIAMS: I am going to go ahead and
14	uphold the objection. Attorney Van Kley, can you ask
15	the question with some more specificity and clarify
16	to the extent you're asking for a determination of
17	what might be "good reason."
18	MR. VAN KLEY: I'm sorry, your Honor.
19	What was the last part of that?
20	ALJ WILLIAMS: To specify the nature of
21	the shutoff you are contemplating or asking about, as
22	well as how you are defining "any good reason."
23	Q. (By Mr. Van Kley) Well, let me let me
24	break this down a little bit. Is Firelands would
25	Firelands be able to shut off a turbine at a time

Γ

where it would otherwise expect that turbine to cast shadow flicker on the house of a nonparticipating neighbor?

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A. I believe so, yes.

Q. Okay. Can you think of any reasons why it would be infeasible for Firelands to do so at a time where it would otherwise expect the turbine to cast that shadow flicker on a nonparticipating neighbor's house?

A. I believe we seek to operate the project in adherence to the rules and regulations of the Power Siting Board which state that we must remain below 30 hours per year at receptors.

Q. But my question is whether it's -- it's infeasible to shut it off at any time or at all times where it would otherwise be casting shadows on a nonparticipating landowner's house.

18 MR. SECREST: Object to the extent it19 calls for speculation.

ALJ WILLIAMS: To the extent you are aware of how curtailing the rotors when they might impact any nonparticipating parties of the project area, I am going to allow you to answer that question.

A. I'm sorry. Could you repeat the

70 1 question? 2 ALJ WILLIAMS: Could you read it back, 3 Karen. 4 (Record read.) 5 Α. To the extent I'm aware, our operations 6 team has the ability to curtail turbines. Okay. Your Honor, seeing 7 MR. VAN KLEY: 8 that it's almost noon and this would be a great breaking point, I would request --9 10 ALJ WILLIAMS: I was going to let you 11 finish shadow flicker, and I was going to suggest the 12 same thing, Attorney Van Kley. We are of the same 13 mindset. My gut here is that had we started at 9:00, 14 we would probably take lunch around 12:30, so I am 15 inclined to take maybe a 10-minute break and come 16 back until 1:30 or so. If you guys want to take an early lunch, we will take an hour now and come back 17 18 and break midafternoon. That's fine as well. 19 You are the one kind of leading the 20 charge here, Attorney Van Kley. What's your preference? Do you want to go 10 minutes and come 21 2.2 back, or do you want to break for lunch now? 23 MR. VAN KLEY: I would rather break for 24 lunch right now because based on the answers to 25 questions on shadow flicker, I have a little

71 1 reorganization to do. 2 That's more than fair, so. ALJ WILLIAMS: MR. VAN KLEY: So I would -- I would 3 4 prefer to take a lunch break right now. I can tell 5 you that -- that the cross-examination is going 6 faster than I expected, which is a rarity in these 7 cases, but I'm expecting to finish with this witness 8 probably well before 5:00. 9 ALJ WILLIAMS: Any thoughts to moving 10 into the next witness today, or do you feel comfortable just going with Mr. Pedder today and 11 12 that would be -- that seems reasonable. Yeah. I feel comfortable 13 MR. VAN KLEY: 14 with the pace if we finish Mr. Pedder today, I think 15 we can stay on schedule with the other witnesses. 16 ALJ WILLIAMS: Okay. MR. VAN KLEY: Some of the other 17 18 witnesses I'm now expecting may go a little faster 19 than I projected as well, so I think that if we 20 finish Mr. Pedder today, we can adjourn for the day and not jeopardize our schedule. 21 2.2 ALJ WILLIAMS: I appreciate that, and I 23 appreciate the interest of the other parties as well, so I will invite anyone else to go off mute and 24 25 interject, but the Bench is currently taking lunch

now from 12:00 to 1:00, coming back on the record at 1 o'clock, and we'll probably build in an afternoon break sometime in the range of 2:30 or 3:00 depending on how we are proceeding. Anybody have any objections or need for clarification of that? Seeing a couple of head shakes no. I don't see anybody coming off mute to stand down there, so with that we will go ahead and take a break now. It's 12 o'clock eastern. We'll resume at 1 o'clock. We are off the record, Karen. Thank you. (Thereupon, at 11:59 a.m., a lunch recess was taken.)

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1	Monday Afternoon Session,
2	October 5, 2020.
3	
4	ALJ AGRANOFF: Please proceed.
5	
6	NATHAN PEDDER
7	being previously duly sworn, as prescribed by law,
8	was examined and testified further as follows:
9	CROSS-EXAMINATION (Continued)
10	By Mr. Van Kley:
11	Q. All right. Mr. Pedder, we're still
12	talking about shadow flicker and I would like to take
13	some time to finish up that discussion now. Would
14	you please go to Applicant's Exhibit No. 4.
15	A. What would the title of that be?
16	Q. That is the Third Supplement to
17	Application, filed on July 10, 2019.
18	ALJ AGRANOFF: Hold on for one second. I
19	do not have the third supplement in front of me but I
20	will momentarily.
21	MR. SECREST: Your Honor, I do. May I
22	hand it to the witness?
23	Thank you.
24	ALJ AGRANOFF: Mr. Van Kley, that was the
25	July 10, 2019, filing?

74 1 MR. VAN KLEY: Yes. 2 ALJ AGRANOFF: Okay. 3 Was there a specific portion of the third Α. supplement? 4 5 Ο. Yeah. You can go to the page -- page 4 which should also be the fourth page of the PDF 6 7 document. And you'll see there a paragraph labeled 8 "Shadow Flicker." 9 ALJ AGRANOFF: Were you looking under 10 Attachment 1 or? 11 MR. VAN KLEY: No, I don't think so. 12 THE WITNESS: I think it's just the body 13 of the response. 14 MR. VAN KLEY: Yes. 15 ALJ AGRANOFF: Okay. I got it. Thank 16 you. MR. VAN KLEY: 17 Sure. 18 (By Mr. Van Kley) Mr. Pedder, are you at Ο. 19 that page? 20 I believe so. Α. 21 Okay. And there's one paragraph under Q. 22 the heading of "Shadow Flicker" here, correct? 23 Correct. Α. 24 0. Yeah. And this is the paragraph that you 25 referred to earlier in your testimony this morning

1 about an update to the shadow flicker discussion in 2 the Application stating that no changes were occurring in the modeling as a result of some -- the 3 addition of some turbine models, correct? 4 5 Α. Correct. This -- this supplement covered 6 change of nameplate capacity for the generators on those turbines but not the turbine dimensions. 7 8 So what you're saying is that the -- the Q. models that are referenced in this exhibit are the --9 10 have the same dimensions as models that were 11 previously subject to the shadow flicker model, 12 correct? 13 So the fourth supplement covers the Α. Yes. 14 Nordex N149 at the 4.8 megawatt nameplate capacity, 15 5.5 and 5.7 megawatt nameplate capacities, as well as 16 the V150 at the 5.6-megawatt nameplate capacity. 17 Those nameplate capacities for those 18 generators were not in the original application so 19 that's what this supplement covers but the change in 20 generator nameplate capacity does not change any of 21 the physical dimensions of a turbine and so the 2.2 shadow flicker model results in the original application are the same for these turbines. 23 All right. You can set that document 24 Ο. 25 And now go to Applicant's Exhibit No. 5 which aside.

76 1 is the Revised Fourth Supplement to the Application, 2 filed on October 4, 2019. 3 ALJ AGRANOFF: One moment, Mr. Van Kley, while I retrieve that. 4 5 MR. SECREST: May I hand the witness a 6 copy? 7 ALJ WILLIAMS: Go ahead. Please feel 8 free. Thanks. 9 MR. SECREST: Certainly. Thank you. 10 EXAMINER AGRANOFF: Okay. I've got the 11 binder. 12 0. (By Mr. Van Kley) All right. Mr. Pedder, 13 are you at that document? 14 Was there a specific document in here you Α. 15 wanted me to be at? 16 Yes. I would like you to first go to the Ο. 17 fourth page of the document. 18 I assume you mean the fourth page of the Α. 19 PDF, the second page -- the page that says page 2? 20 Actually it's the sixth page of the PDF 0. document and then it is a table of turbine models. 21 22 "Attachment 1" is at the top of the page. 23 Okay. Attachment 1, thank you. Yes. Α. So do you see a list of turbine models on 24 Ο. 25 the page you are looking at?

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1	A. I do, yes.
2	Q. Okay. And this table shows the
3	identification of turbine models that were listed in
4	the original application filed on January 31, 2019;
5	is that correct?
6	A. It does, correct.
7	Q. And then it also shows which turbine
8	models were identified in the third supplement to the
9	application on July 10, 2019, correct?
10	A. Correct.
11	Q. And those models, the turbine models were
12	in addition to to the Vestas V150 and the Siemens
13	Gamesa SG 145 that were listed in the original
14	application, correct?
15	A. The Nordex N149 4.5-megawatt was also
16	listed in the original application but so
17	Q. That's no longer under consideration in
18	your third supplement, right?
19	A. Correct.
20	Q. Uh-huh. So at the time of the third
21	supplement then, you had six turbine models under
22	consideration, correct?
23	A. Correct.
24	Q. And then the table also shows two
25	additional models being added to those under

1 consideration in the fourth supplement of October 4, 2 2019, correct? 3 Α. Correct. 4 Ο. Uh-huh. Now, are the -- are the eight 5 turbine models listed there, that is all of the 6 models in the original application, third supplement, 7 and the fourth supplement, other than the one crossed 8 out, those eight models are the ones currently under consideration? 9 10 Α. Yes. 11 All right. And if there is some way Ο. 12 where you can kind of keep your finger in that page 13 or mark it somehow, we are going to come back to this 14 page a little later. 15 Α. Okay. But I have a few more questions then 16 Ο. about this exhibit which I would like to ask you 17 18 about. So now go to the start of the shadow flicker 19 report that is in Exhibit No. 5. For those of you 20 using a PDF, it would be the ninety-third page of the 21 PDF, and let me see --2.2 It's Attachment 3. Α. 23 Q. It is, yes. 24 ALJ AGRANOFF: And just so that I am 25 clear, Mr. Van Kley, we're still talking about the

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1	Revised Fourth Supplement to the Application?
2	MR. VAN KLEY: Yes, we are, and that's
3	marked as Applicant Exhibit No. 5.
4	ALJ AGRANOFF: Okay. Thank you.
5	Q. (By Mr. Van Kley) All right. So
6	referring you to Attachment 3 of Applicant Exhibit
7	No. 5, that is the first page of or that is
8	another shadow flicker modeling report, correct?
9	A. Correct.
10	Q. And this shadow flicker modeling report
11	applies to the new the two new GE models of
12	turbine that were added in the fourth supplement; is
13	that correct?
14	A. Correct.
15	Q. This report does not contain any modeling
16	results for the turbine models that had previously
17	been the subject of shadow flicker modeling in the
18	Application, right?
19	A. Wait a second. Let me confirm that. I
20	believe that is correct.
21	Q. This this modeling report in
22	Attachment 3 evaluates the shadow flicker from the
23	two GE turbine models that are on the first page of
24	Attachment 3, correct?
25	A. I'm sorry. Could you say that again?

	80
1	Q. Yeah. Go to page 1 of the report that's
2	in Attachment 3. You will see your name at the top
3	of it and then it's from Lindsey Donahoe and it's
4	dated September 9, 2019.
5	A. Yes.
б	Q. Okay. You are on that page then?
7	A. Yep.
8	Q. Okay. And then you see two turbine
9	models listed in Table 1 in that page, correct?
10	A. Correct.
11	Q. And this shadow flicker report pertains
12	to the potential shadow flicker from those two GE
13	turbine models, correct?
14	A. Correct.
15	Q. And the modeling of the shadow flicker
16	reported in Attachment 3 used the same procedures
17	that the shadow flicker monitoring in the original
18	application had used, correct?
19	A. Same methodology, correct.
20	Q. Now, go to page 9 of Attachment 3 of
21	Applicant's Exhibit No. 1. For those of who you are
22	looking online, that is PDF page 102. And do you see
23	a page there that has a conclusion in it?
24	A. Yes.
25	Q. Okay. The conclusion reads as follows:

1	"In summary, as a result of modeling the proposed 87
2	turbine locations, WindPRO predicted that 50
3	non-participating receptors will receive more than
4	30 hours of shadow flicker per year. The cumulative
5	shadow flicker analysis predicted that 16
6	non-participating receptors would experience over
7	30 hours per year of shadow flicker due to cumulative
8	effects of the Project and the proposed Republic Wind
9	Farm." Do you see that language?
10	A. Yep.
11	Q. Okay. So at least with respect to the
12	two General Electric turbine models being evaluated
13	in this report, those models would expose both
14	turbine models would expose 50 nonparticipating
15	receptors to potentially more than 30 hours of shadow
16	flicker per year; is that correct?
17	A. The model shows modeling for worst-case
18	scenario and so under a worst case scenario that is
19	true including all of the conservative assumptions
20	included in this report, but the Stipulation includes
21	a condition regarding ensuring that all
22	nonparticipating receptors remain below 30 hours per
23	year. And so no homes would go beyond that 30 hours
24	per year limit.
25	Q. Uh-huh. At this point in time, Firelands

1	has not produced a shadow flicker model that shows
2	that no nonparticipating receptor would be exposed to
3	more than more than 30 hours of shadow flicker per
4	year, correct?
5	A. Sorry. Could you repeat that question?
6	I think I missed a little bit in the middle there.
7	Q. Sure. At this at this point in time,
8	Firelands has not produced a shadow flicker modeling
9	report showing that there will be no nonparticipating
10	receptors exposed to 30 hours or more of shadow
11	flicker per year, correct?
12	A. That will be included as part of the
13	Stipulation as part of the pre-construction shadow
14	flicker model that will be shared with OPSB Staff.
15	Q. Back to my question. It is correct that,
16	at this point in time, Firelands has not done that.
17	A. Yes.
18	Q. Going back to the conclusion on page 9 of
19	Attachment 3 of Applicant's Exhibit No. 5, the second
20	sentence that I read to you states that it is
21	"predicted that 16 non-participating receptors would
22	experience over 30 hours per year of shadow flicker
23	due to cumulative effects of the Project and the
24	proposed Republic Wind Farm."
25	My question to you here is, whether the

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16 nonparticipating receptors referenced in this
 2 sentence are different receptors than the 50
 3 predicted to receive more than 30 hours of shadow
 4 flicker per year from the Emerson Creek wind project
 5 itself?

A. I believe -- my -- I would have to go
through each page of the table to be sure but my
understanding of that sentence would be that there
are 50 specifically because of the Emerson Creek wind
modeling and then there would be an additional 16
that would be due to the cumulative effects.

Q. Table 3 of Attachment 3, which starts on page 8, that is a table that provides the cumulative shadow flickers for the two wind projects we've been discussing, right?

16

A. Correct.

Q. And Table 2 is the table that provides the shadow flicker results for the general flicker coming from only the Emerson Creek wind project, right?

21 A. I'm sorry. Could you repeat that 22 question as to what Table 2 is?

Q. Yeah. Table 2 contains the results of
the shadow flicker modeling limited to the shadow
flicker coming from Emerson Creek wind project

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1 itself. 2 It's not a full table of those results. Α. It is a table that is limited to just receptors 3 modeled for greater than 30 hours per year. There 4 would be an additional 1,577 receptors that would not 5 be included in this. 6 Okay. Very good. So the question I have 7 Ο. 8 here then is you see the Receptor ID numbers used in both Tables 2 and 3? 9 10 Α. Yes. 11 Were the Receptor ID numbers the same Ο. 12 regardless of the analysis, that is, if we found Receptor ID No. 319 in Table 2 and then we found it 13 14 in Table 3, would the same Receptor ID number, those 15 would be the same receptor? 16 Between Table 2 and Table 3 in Attachment Α. 17 3? 18 Yes, uh-huh. 0. 19 Α. Yes. 20 Okay. So we would be able to cross --0. 21 cross-reference the Receptor ID numbers in Table 2 2.2 and Table 3 to confirm whether or not any of the 16 receptors found to have a cumulative potential 23 24 exposure to more than 30 from the two projects 25 overlaps with or is different than those receptors

85 1 found in Table 2, right? 2 Α. Yes. You can also determine that just by looking at Table 3 since it does include the Emerson 3 4 Creek-only results. So you can see there are 5 Receptor ID 275 and Receptor ID 923 are the two 6 Receptor IDs that would be in both Table 2 and 7 Table 3. 8 MR. VAN KLEY: Could we go off the record 9 for just a second? 10 (Discussion off the record.) 11 ALJ AGRANOFF: And let's go back on the 12 record at this time. 13 (By Mr. Van Kley) All right. We are 0. 14 finished with our discussion of shadow flicker so you 15 can put those documents aside for now. 16 All right. Now, would you go please to Applicant's Exhibit 82 which would be the turbine 17 18 safety manuals. 19 Α. Yes. I think I may have that in front of 20 me but I suppose we'll find out. All right. Well, let's figure it out. 21 0. 22 It should have, on the first page, a cover letter of September 24, 2020, from Dickinson to the Board. 23 Is 24 that the document you are looking at? 25 I just have the two manuals, I Α. No.

86 1 believe, that were included as exhibits that you have 2 for cross. So if you have a different document --3 one second. MR. SECREST: Mr. Van Kley, I think what 4 Mr. Pedder has is the actual manuals, not the filing 5 6 on the docket. 7 MR. VAN KLEY: Okay. I have -- I had 8 marked one of the manuals as LR Exhibit 4 and the other one is my LR Exhibit 5 but those are duplicates 9 10 of documents included in your Applicant's Exhibit 82. 11 And since that document 82 has already been 12 introduced, I thought I would use that. 13 (By Mr. Van Kley) Do you have that Ο. 14 document in front of you now? 15 Mine is marked as LR Exhibit 4 and 5 but Α. 16 it sounds like that's the exact same, so yes. 17 0. Okay. All right. So let's go to --18 ALJ AGRANOFF: Mr. Van Kley, what was the 19 date of filing for Applicant Exhibit 82? 20 MR. VAN KLEY: I don't know and it's not written on my list of exhibits. 21 22 MR. SECREST: Your Honor, it was 23 September 24, 2020. 24 ALJ AGRANOFF: Thank you. 25 MR. SECREST: You're welcome.

87 1 ALJ AGRANOFF: You can go ahead, 2 Mr. Van Kley. 3 (By Mr. Van Kley) So let's go to the 0. Nordex safety manual. And for those who are looking 4 at the Exhibit 82, the page I am going to go to is 5 6 PDF page 153. 7 For Mr. Pedder, since you are using the 8 paper copy, the Nordex safety manual should be LR Exhibit 4 on the document you are looking at and go 9 10 to page 47 of that manual. 11 Where it says page 47 at the bottom right Α. 12 corner? 13 Page 47 of 62 in the bottom right-hand Ο. 14 corner. 15 Α. Okay. 16 All right. I would like you to look at Ο. 17 the first paragraph that has the word "Danger" on the 18 top. 19 Α. Okay. 20 0. And let me read to you what is stated in 21 this paragraph. It states: "Danger. 22 Life-threatening injuries due to falling turbine parts. In case of a fire in the tower, in the 23 nacelle or on the rotor, parts may fall off the WT. 24 25 Keep a safety distance of 500 meters around the WT.

88 1 Do not enter the WT." Do you see that language? 2 Α. I do. 3 Ο. Okay. And "WT," as used in this paragraph, refers to wind turbine, correct? 4 5 Α. That would be my understanding. 6 Uh-huh. And the -- the emergency that is Ο. 7 being referred to in this language concerns the --8 concerns a fire in the wind turbine, correct? 9 Α. Yes. And the -- the warning in this paragraph 10 Ο. 11 is that in case of a fire, parts may fall off of the 12 wind turbine? 13 MR. SECREST: Objection. The document 14 speaks for itself. 15 ALJ AGRANOFF: Mr. Van Kley, if you could 16 give a little bit more specificity as to what it is 17 that you are asking the witness to opine on. 18 (By Mr. Van Kley) So the purpose of this 0. 19 warning is to protect people from being hit by parts 20 falling off of the wind turbine, correct? 21 MR. SECREST: Objection, speculation. 22 MR. VAN KLEY: I don't think it's speculation. I think it's rather clear from the 23 24 language. 25 ALJ AGRANOFF: Why don't you ask the

89 1 witness what his understanding of the specific 2 language is intended to represent. 3 MR. VAN KLEY: All right. 4 0. (By Mr. Van Kley) Mr. Pedder, what's your understanding what this language is meant to 5 6 represent? One second. I just want to make sure I 7 Α. 8 reread it again. 9 My understanding this is meant to 10 represent general instructions and information for 11 those operating in or potentially near the wind 12 turbines. 13 Would you go -- keep your finger here, Ο. 14 please, in Applicant's Exhibit 82, but go -- also go 15 to your testimony which is Applicant's Exhibit 31. 16 Give me one second. Okay. Α. Go to page 9 of your testimony in 17 Ο. 18 Applicant's Exhibit 31. And I would like to direct 19 your attention to the first paragraph on the top of 20 that page. In there you refer to a Nordex N149 21 safety manual. Do you see that? 2.2 Yes, I believe so. Α. 23 0. Is that the same safety manual that we 24 were talking about where we were looking at page 47 of 82? 25

90 1 It appears so. Α. 2 Okay. So in your testimony you talk 0. 3 about guidance to ensure that workers are not standing near or within a turbine during a 4 5 thunderstorm. And then you have a parenthetical 6 saying "see Attachment NP-2." So could we go to NP-2 which I believe would be an attachment to your 7 8 testimony? 9 Α. Yep. I believe it's right after my 10 résumé. 11 Okay. Now, is -- are the pages in NP-2 Ο. 12 parts of the safety manual that is in Applicant's 13 Exhibit 82 that we've been discussing? 14 I'm sorry. Can you repeat your question? Α. 15 Ο. Yes. In your Exhibit NP-2, you have a 16 two-page letter from Nordex, correct? 17 Α. Correct. 18 Is this two-page letter contained in the Ο. 19 Nordex safety manual that we've been discussing? 20 It is not. Α. 21 All right. Can you identify the language Ο. 22 in the safety manual, the Nordex safety manual, that is being discussed by the Nordex letter that is 23 marked as Exhibit NP-2? 24 25 I'm sorry. Do you want me to read Α.

1 through the whole Nordex safety manual to identify 2 the appropriate language? 3 Well, I was hoping that you would know 0. where to find it. If you need to look through it, we 4 5 can give you a few moments, if that's enough time. If it takes too long, then we'll move on. 6 7 MR. SECREST: I am happy to assist the 8 witness, with your permission, your Honor and 9 Mr. Van Kley. 10 MR. VAN KLEY: That would be fine with 11 me, Mr. Secrest. 12 EXAMINER AGRANOFF: Yes. Go ahead. 13 MR. SECREST: Thank you. Page 46 of our 14 4 or Applicant's 82. 15 THE WITNESS: Right where I already was. 16 Thank you. Sorry about the delay. 17 Ο. (By Mr. Van Kley) All right. Could you 18 identify the specific language on that page that is referenced in the Nordex letter identified as NP-2? 19 20 Α. Give me one moment, please. 21 ALJ AGRANOFF: Again we are looking at 22 page 46 or page 146? 23 MR. VAN KLEY: It would be page 46 of 62 in the Nordex safety manual. 24 25 ALJ AGRANOFF: Okay.

92 1 MR. VAN KLEY: If you are looking at the 2 PDF, it would be PDF page 152. 3 ALJ AGRANOFF: Thank you. That's what I was looking for. 4 5 Α. I believe it would be referring to the language under section 9.2. 6 7 0. Okay. 8 At least the first part, yes. Α. 9 To your knowledge, how many wind-powered Ο. 10 facilities does Apex Clean Energy own? 11 Α. Own? 12 0. Yes. Own and operate -- let me rephrase 13 the question. 14 How many wind-powered facilities does 15 Apex Clean Energy operate? 16 I believe we operate around 10 wind --Α. 17 wind farms at this time. 18 Okay. Are you aware of any incident at Ο. 19 any of these wind farms in which a turbine blade has 20 been detached from the turbine tower? 21 Α. I am not aware. 22 Are you aware of any incidents at 0. wind-powered facilities in Ohio where a blade has 23 been detached from a wind turbine tower? 24 25 A whole blade, I do not believe so. Α.

93 1 0. Are you aware of any incident where part 2 of a blade has been detached? 3 Α. Yes. Which incident or incidents are you aware 4 0. 5 of? I am not sure the specific project that 6 Α. occurred at. 7 8 Have you done any evaluation to determine Ο. how far a piece of a wind turbine blade can travel 9 10 upon detachment from a wind turbine tower? 11 I would -- may I refer back to the Α. 12 Application narrative? I believe there may be 13 something in there. 14 Yes, you may. Q. 15 One second. I'll try not to lose that Α. 16 page in the Nordex manual. 17 I do not believe a specific analysis for 18 blade shear distance was conducted for this project, 19 but understand that the generally-accepted industry 20 distance for that would be 1.2 times tip height. 21 What's the source of that standard? Ο. 2.2 I've worked with folks that have done Α. blade shear analysis, and I believe that's the number 23 24 that's been used primarily. 25 All right. Are you aware of any Ο.

94 1 instances at any wind-powered facilities at which 2 blades or pieces of blades have traveled as far as 3 1,640 feet away from the tower? 4 Α. I'm not aware. 5 Ο. Let's go back to Applicant Exhibit 82, 6 and for Mr. Pedder, the copy you are looking at would 7 be LR Exhibit 5. It would be the General Electric 8 safety manual. For those of you looking at the PDF, that manual starts on PDF page 171 of Applicant's 9 10 Exhibit 82. I have LR5 in front of me. 11 Α. 12 0. Okay. Go to page 42 of that manual. 13 Uh-huh. Α. 14 And the top of that page should say Q. 15 Section 7.4, Special Dangers - Icing. 16 Α. Yes. 17 0. Okay? 18 ALJ AGRANOFF: Mr. Van Kley, what page is 19 that in the PDF? 20 MR. VAN KLEY: Let's see. 21 ALJ WILLIAMS: 212. 22 Thank you, Judge Williams. ALJ AGRANOFF: (By Mr. Van Kley) All right. Referring 23 Ο. 24 you to the second paragraph on that page, there is a 25 sentence there that states as follows: "If people or

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1	objects near the wind turbine generator system
2	(within the distance R2) could be endangered by
3	pieces of ice thrown off during operation, GE
4	Renewable Energy always recommends the use of ice
5	detection." Do you see that sentence?
6	A. Yes.
7	Q. Does R2 refer to the footnote at the
8	bottom of this page which is footnote 2 and then the
9	letter R?
10	A. Yes. I believe that 2 is supposed to be
11	superscripted.
12	Q. So the distance referred to in the second
13	paragraph on that page is calculated by using the
14	formula in footnote 2 on the bottom of that page,
15	correct?
16	A. Yes.
17	Q. And that formula is 1.5 times hub height
18	plus rotor diameter, correct?
19	A. Yes.
20	Q. Now, keep your finger there and go back
21	to that list of turbine models that we earlier
22	discussed in the fourth pair the fourth supplement
23	of the Application that is marked as Applicant
24	Exhibit 5.
25	A. Yep.

96 1 0. And go to the fourth page of the PDF 2 which is that table in Attachment 1. 3 Α. Yes. Could you tell me which of these turbine 4 Ο. 5 models has the highest combination -- or the largest combination of hub height and rotor diameter? 6 That would be the Nordex N149 at 7 Α. 8 125-meter hub height. Okay. I see -- I see there are four --9 0. 10 or three Vestas -- or three Nordex 149s here. So 11 which one of these models are you referring to, the 12 4.8 megawatts or 5.5 or 5.7? 13 The nameplate capacity would not have any Α. 14 impact on the physical dimensions and so the physical 15 dimensions of all of the Nordex N149 turbines are the 16 same regardless of generator capacity so it would be referring to all three of those turbine models when 17 18 they are at their 125-meter hub height. 19 Q. And what is the rotor diameter for that 20 model? 149 meters. 21 Α. 2.2 And the 125 in height, that was given in 0. meters as well? 23 Correct. I can approximate it in feet if 24 Α. 25 you would prefer.

97 1 MR. SECREST: I would not. 2 That's quite okay. 0. 3 Do you know what the minimum setback observed by Firelands between wind turbines and 4 5 public roads other than state or federal highways 6 use? 7 It would be -- I believe the -- that Α. 8 setback distance as laid out by the regulations in 9 Ohio is, I believe, 1.1 times tip height. 10 Okay. Would you go to Applicant Ο. 11 Exhibit 1 which is the narrative of the Application. 12 And go to page 192 of that document. 13 Α. 192? 14 Q. Yes. 15 ALJ AGRANOFF: One moment, Mr. Van Kley. 16 I'm there. Α. Okay. Please proceed. 17 ALJ AGRANOFF: 18 All right. Look at the bottom of 0. 19 page 192 of Applicant's Exhibit No. 1. At the bottom 20 of the page you'll see a bullet point. 21 Uh-huh. Α. 22 And it says there, "The maximum total 0. height of the tallest turbine model under 23 24 consideration for the Facility is 655 feet, for the 25 Nordex N149 with a 125-meter hub height. Should this

1 model be selected, the turbine setback to public 2 roads and electric/gas transmission and distribution 3 lines for the proposed Facility would be 720.5 feet (655 feet times 1.1)." Do you see that? 4 5 Α. Yes. So if you took -- if you used the formula 6 0. 7 in footnote 2, on footnote 2 on page 42 of the GE 8 Renewable Energy safety manual, would the results of that formula for the N149, with a 125-meter hub 9 10 height, exceed 720.5? 11 Hub height plus rotor diameter is greater Α. 12 than tip height and 1.5 is greater than 1.1, so yes. 13 On page 42 of the GE safety manual, I Ο. 14 would like to refer you to the third paragraph from 15 the bottom which starts with the word "However." And 16 that sentence reads as follows: "However, ice may 17 form on the rotor blades considerably more quickly than the design of the ice detection considers. As a 18 19 result, there is a residual risk for the reliable 20 detection of ice build-up on the rotor blades." Do 21 you see that? 22 Α. Yes. Now, what's being referred to here is 23 Ο. 24 ice-detection equipment that can be installed on a 25 wind turbine, correct?

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1	Α.	Yes.
2	Q.	The next paragraph states "The ice
3	detection mu	ast be set relatively sensitively, in
4	order to ens	sure that the time from when ice starts to
5	build up on	the rotor blades until the detection
6	sends a mess	sage about the build-up of ice is as short
7	as possible.	." Do you see that?
8	Α.	Yes.
9	Q.	In your experience, can ice-detection
10	equipment be	e set at different settings, some which
11	are more ser	nsitive to the buildup of ice than others?
12	Α.	I do not have experience with that, so
13	I'm not sure	2.
14	Q.	Let's go back to your testimony,
15	Applicant's	Exhibit 31, page 9.
16	Α.	Am I still going to need the GE safety
17	manual?	
18	Q.	No. You can put that to the side.
19	Α.	Thank you.
20		You said page 9 of the testimony?
21	Q.	Yes.
22	Α.	Okay.
23	Q.	All right. I would like you to take a
24	look at the	second bullet on that page starting with
25	the words "W	With respect to grid reliability."

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1	A. Yes.
2	Q. What experience do you personally have
3	with the electric grid?
4	A. Professional, you know, through
5	development of wind projects as well as a brief time
6	at ISO New England.
7	Q. A brief time at what again?
8	A. The Independent System Operator in New
9	England.
10	Q. And what is that?
11	A. It's the nonprofit entity that is the
12	renewable or the regional transmission operator
13	for Maine, Massachusetts the states up there.
14	Rather than list them and strain my memory.
15	Q. Is that the entity that operates the grid
16	there?
17	A. Yes.
18	Q. Okay. Have you ever operated an energy
19	production facility?
20	A. I have not, no.
21	Q. Now, wind energy a wind project
22	produces electricity only when the wind blows,
23	correct?
24	A. During specific wind speeds, correct.
25	Q. Uh-huh. The wind has to blow at a

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1	fast-enough speed in order for the turbine to produce
2	electricity?
3	A. Yes.
4	Q. Uh-huh. And if the wind is blowing too
5	fast, then it can't produce electricity either,
6	right?
7	A. Correct.
8	Q. Can the electricity that is produced by a
9	wind turbine be stored prior to usage by the electric
10	grid?
11	MR. SECREST: Objection as to relevance.
12	MR. VAN KLEY: Well, it's relevant to his
13	claim that this system is not inconsistent with grid
14	reliability.
15	MR. SECREST: And PJM made that
16	determination, as did the Staff, in determining the
17	basis for need was not at issue.
18	MR. VAN KLEY: We are not talking about
19	need. We are talking about grid reliability. We are
20	talking about about negative impacts on the grid.
21	And that's that's something that's discussed in
22	the witness's testimony where he is sponsoring the
23	system impact study by PJM that's included in the
24	Application.
25	MR. SECREST: That's exactly true. He is

102 1 sponsoring the study and that's what is referred to 2 when his testimony addresses grid reliability that PJM made its determination. 3 4 MR. VAN KLEY: Yeah. And I have a right 5 to -- to ask him questions about that report that he 6 is sponsoring. 7 MR. SECREST: You are on mute, your 8 Honor. 9 MR. VAN KLEY: I think you are still on 10 mute, your Honor. 11 MR. SECREST: Your icon says you came off 12 mute, your Honor. However, we cannot hear you. 13 ALJ WILLIAMS: All right. You guys can 14 hear me? 15 MR. SECREST: Yes, your Honor. 16 ALJ WILLIAMS: We are going to allow some 17 of this line of questioning. So this is certainly 18 information that appears to be firsthand knowledge of 19 Witness Pedder so we are going to allow some of this 20 questioning. Attorney Secrest, if it gets more out of bounds, you are welcome to continue stating your 21 22 objection. We will consider a ruling at that time. 23 Please proceed. Thank you, your Honor. 24 MR. SECREST: 25 MR. VAN KLEY: Could we have the last

103 1 question read back for the witness, please. 2 (Record read.) 3 Α. It can. What does it take -- what device can be 4 Ο. 5 used to store that electricity? There are a variety of electricity 6 Α. 7 storage generation types. Such as batteries? 8 Ο. 9 Batteries would be one of those, correct. Α. 10 Okay. Does Firelands have included in 0. its design, electricity storage devices such as 11 batteries or other devices? 12 Not at this time. 13 Α. How fast does the wind have to blow for 14 0. 15 Emerson Creek wind project to produce electricity? 16 3 meters per second. I believe that's Α. actually on that table of turbines in supplement 4. 17 18 I believe it's 3 meters per second which is 19 approximately 7 miles per hour. 20 Do you know what the average wind speed 0. 21 for the project area is? 2.2 Α. Not precisely, no. 23 Ο. Do you know what percentage of the time 24 that Emerson Creek wind project is expected to 25 produce electricity?

104 1 Α. I do not off the top of my head, no. 2 MR. VAN KLEY: All right. If you could 3 give me about 5 minutes to check my notes to make sure I've asked everything, then I think we can wrap 4 5 this up. 6 ALJ WILLIAMS: Sure. Why don't we go --7 why don't we double that for you. Why don't we take 8 10, have enough time to walk away and take care of business. We will reconvene at 2:15. 9 10 All right. Thank you. We are off the 11 record. 12 (Recess taken.) 13 ALJ AGRANOFF: Mr. Van Kley, can you hear 14 me? 15 MR. VAN KLEY: Yes, I can. 16 ALJ AGRANOFF: Okay. At this point in 17 time, are you ready to continue with whatever 18 remaining questions you might have? MR. VAN KLEY: All right. Yes, I do have 19 20 additional questions. 21 (By Mr. Van Kley) Mr. Pedder, could you Ο. 22 go back to your testimony marked as Applicant's Exhibit 31 and go to page 10, please. 23 24 Α. Okay. 25 Go to the second-to-the-last bullet point Ο.

105 1 on that page. 2 Α. Yes. 3 0. It discusses land use plans. And here you've stated that the proposed project adheres to 4 5 the guidelines laid out in these plans. Do you see 6 that? 7 Α. Yes. 8 Ο. Is there anything in the plans of the 9 local governments that have jurisdiction over the 10 project area pertaining to wind turbines 11 specifically? 12 Α. Not that I'm aware of. 13 Let's go to page 11 of your testimony. Ο. 14 Okay. Α. 15 Second-to-the-last bullet point. Q. 16 Α. Okay. 17 In the second sentence of that bullet Ο. 18 point it states that Emerson Creek Wind Farm will 19 likely utilize parts and components within the 20 turbines and in its associated facility that will be 21 manufactured in Ohio. Do you see that? 2.2 Α. Yes. 23 Has Firelands entered into any contracts 0. with the Ohio manufacturers for individual parts and 24 25 components?

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1	A. Not at this time. Not that I am aware
2	óf.
3	Q. Uh-huh. Based on cost, what's the
4	approximate percentage of turbine components in parts
5	that you expect to be manufactured in Ohio for this
6	facility?
7	A. I am I would hesitate to speculate.
8	Q. Have you been involved in the
9	construction of any other wind projects for Apex?
10	A. I have not been involved in construction,
11	no.
12	Q. Have you been involved in the procurement
13	process for any other Apex wind projects?
14	A. I have not.
15	Q. With respect to other Apex wind projects
16	that have been constructed, do you know where the
17	turbine blades for those projects have been
18	manufactured?
19	A. Are you asking for a specific project?
20	Q. No. Just in general for all of your
21	projects.
22	A. No, not specifically.
23	Q. Do you know generally whether those
24	blades have been produced by manufacturers in the
25	United States as opposed to other countries?

107 1 Α. My understanding is that blades are 2 primarily manufactured here in the United States typically, as local to the project as possible, due 3 to the constraints in transportation of those blades. 4 5 Ο. What about the components of the wind turbine tower, are those generally available in the 6 7 United States? 8 Α. I believe tower components are also primarily manufactured stateside. If we're talking 9 10 specifically the tower itself. 11 Are there some components of the wind 0. 12 turbines that are not available in the United States? Not available? 13 Α. 14 0. Yes. 15 I'm not aware of all of the manufacturing Α. 16 capabilities that exist in the United States. 17 Ο. Go to page -- page 13 of your testimony. 18 Okay. Α. 19 Q. I would like you to look at the sentence 20 that starts on page 7 and goes through line 9. 21 Α. Okay. 2.2 It states in that sentence that the 0. project will create 305 jobs to construct and 23 24 subsequently to operate and maintain the wind farm 25 with associated annual earnings by those employees of

108 1 19.8 million. Do you see that? 2 Α. Yes. My question is, of that 19.8 million, how 3 Ο. much of that -- of those earnings are earned by 4 employees who operate the wind farm? 5 I believe that is a figure -- a number 6 Α. 7 that would be -- that is included in the 8 socioeconomic report and Witness Erica Tauzer will be 9 able to provide the specifics on what that exact 10 figure is. 11 Do you know what the expected salaries of Ο. 12 the persons who are operating -- who are going to 13 operate this facility would be? 14 I do not know the specific salaries. I Α. 15 believe that's also estimated in the socioeconomic 16 report. 17 Ο. Go to the last paragraph on page 13 of 18 your direct testimony marked as Applicant's 19 Exhibit 31. 20 Α. The last paragraph. 21 The last paragraph, I would like to refer Ο. 22 you to the sentence that starts at line 25, which states "The Project facilitates economic health and 23 24 growth by expanding the local tax and employment base 25 while avoiding impacts to natural resources." Do you

109 1 see that sentence? 2 Α. Yes. 3 0. Do you regard a project that kills eagles as avoiding impacts to natural resources? 4 5 MR. SECREST: Objection, argumentative and speculative. 6 7 MR. VAN KLEY: It's certainly not 8 speculative and it's factual. In the Application it 9 states that eagles will likely be killed. 10 ALJ AGRANOFF: I'll allow the question if 11 the witness has knowledge. 12 Α. I'm sorry, Mr. Van Kley. Can you repeat 13 that question? 14 Yeah. Do you regard a project that kills Q. 15 eagles as a project that avoids impacts to natural 16 resources? 17 I believe the impacts to wildlife will be Α. 18 covered by other witnesses but my understanding and 19 my belief is that this project has a minimum adverse 20 environmental impact. 21 Go back to the question that I asked. Ο. Ιf 22 the project kills eagles, does it avoid impacts to 23 natural resources? MR. SECREST: Again, objection, 24 25 speculative.

110 1 ALJ AGRANOFF: I'll allow the question. 2 Α. I'm sorry, can you repeat the question? 3 Yeah. If the project kills eagles, does Ο. it avoid impacts to natural resources? 4 5 Α. I'm unsure as to whether or not it would, 6 so I'm not sure how to best answer your question. 7 Well, my question is straightforward. 0. 8 If -- if the project kills eagles, does it avoid all impacts to natural resources? 9 10 So it -- assuming in that hypothetical Α. scenario? 11 12 Ο. Yes. I believe it would still have a minimum 13 Α. 14 adverse environmental impact as long as it is 15 approved and permitted appropriately by U.S. Fish and 16 Wildlife Services and ODNR. 17 Ο. So you're stating that you believe the 18 project would minimize the impact to natural 19 resources, not avoid impacts all together; is that 20 correct? 21 MR. SECREST: Objection, asked and 22 answered, relevance. 23 MR. VAN KLEY: I'm just going right back 24 to his statement in his testimony where he says this 25 project will avoid impacts to natural resources. I'm

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1	testing the credibility of that statement.
2	ALJ AGRANOFF: If the witness can
3	reconcile the statement in your testimony with the
4	potential harm to eagles.
5	A. As far as potential harm to eagles, I
6	believe that would be covered by a later witness.
7	I'm not trying to be difficult here.
8	Q. (By Mr. Van Kley) Well, let's try this
9	with a different natural resource. Let's try it with
10	birds. Do you expect that this project will kill at
11	least one bird?
12	A. I would I'm not sure the anticipated
13	impacts on birds. I would defer that to, I believe,
14	Witness Rhett Good.
15	Q. Uh-huh. Well, based on your your
16	familiarity with the information in your own
17	application, isn't it true that it is anticipated
18	that the project will kill at least some birds?
19	A. I'm sorry. Could you repeat that
20	question?
21	Q. Yes. Could we have the question reread.
22	(Record read.)
23	A. I'm not aware of the specifics.
24	Q. So does that mean you don't know the
25	answer to my question about whether the project is

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1 expected to kill at least some birds? 2 If you're referring to the Application, Α. 3 in a study or correspondence therein, I would want to be able to look at that to know exactly what we're --4 5 what we're discussing here. 6 So based on the conversation that you and Ο. 7 I have just had, do you still hold to your statement 8 in your testimony that the project will avoid impacts to natural resources? 9 10 MR. SECREST: Objection, argumentative. 11 I will allow a little bit ALJ WILLIAMS: 12 of latitude, but I think the question is aimed at --13 the testimony that's been prefiled talks about 14 avoiding impacts to natural resources, and it's the 15 testimony -- whether there is a complete avoidance or 16 is there some limitation regarding the avoidance of the impact on natural resources. So I think that's 17 18 the question and we're going to allow the witness to 19 answer the question. 20 I think -- thank you for that Α. I think, you know, for wetlands, for 21 clarification. 22 example, I believe we have the potential for like a tenth of an acre of impacts and so that is not a 23 24 complete avoidance. So I suppose perhaps a more 25 accurate way to state this would have been that the

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113 1 project facilitates economic health and growth by 2 expanding the local tax and employment base while maintaining a minimum adverse environment --3 environmental impact to natural resources. 4 5 MR. VAN KLEY: Okay. I have no further questions at this time. 6 7 ALJ AGRANOFF: Thank you. 8 Before we get into redirect, is there 9 anything from other counsel that they would like to raise? 10 11 Actually, your Honor, Staff MR. MARGARD: 12 has a couple of clarifying questions, if I might. 13 ALJ AGRANOFF: It would have to be very 14 limited in scope, please. 15 MR. MARGARD: Oh, absolutely, your Honor. 16 Thank you. 17 18 CROSS-EXAMINATION 19 By Mr. Margard: 20 Mr. Pedder, let me ask you to turn to 0. page 9 of your testimony, please. 21 2.2 Okay. I'm there. Α. 23 Ο. You were asked some questions, were you 24 not, about the setbacks in the first paragraph on 25 that page, correct?

114 1 Α. Yes. 2 Specifically you were talking about 0. quidance for workers and distance not intended as a 3 setback distance. Does the Company distinguish 4 5 between temporary and permanent setbacks? 6 As far as the term "setback," no -- I Α. don't believe we would delineate. 7 I believe 8 "setback" would refer specifically to permanent setbacks as far as where a turbine is allowed to be 9 10 constructed. 11 And these other distances that you are Ο. 12 referring to, the safety distance then would be 13 temporary and circumstantial in nature; is that your 14 understanding? 15 Those are temporary guidance, yes. Α. 16 And you indicate that you believe that Ο. 17 that's what the manual is intended to imply. What's 18 the basis for your understanding of the manual's 19 intent? 20 Attachment NP-2 includes Nordex Α. 21 stating -- actually let me flip to that. For 2.2 everyone's understanding, I'm -- I flipped over to Attachment NP-2, in the second paragraph the -- it 23 24 would be "We have become aware that there may be some 25 misunderstanding around the safety guidance published

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in our N149 manual regarding lightning. The manual
 is intended to protect the safety of...turbine
 mechanics and technicians by advising personnel not
 to work on turbines...."
 I believe also then on the first

6 paragraph of the second page it states that "We have 7 become aware that Nordex work instructions regarding 8 emergency operating conditions are being cited by opponents of wind energy projects in Ohio as they 9 10 advocate for additional setback regulations. 11 Nordex's safety manuals should not be misinterpreted 12 as guidance for setback distances for wind turbines 13 from homes, roads, and property lines or otherwise. 14 The manual referenced does not specify any emergency 15 clearance area for siting distance from wind 16 turbines." Did that answer your question? ALJ WILLIAMS: Would you reorient me as 17 18 to where NP-2 is? I'm sorry. 19 THE WITNESS: Oh, I'm sorry. I believe 20 this is Applicant Exhibit 31. It's my testimony. Ιt

21 would be the attachment right after my résumé. So my 22 testimony runs for 21 pages, so it would be about 23 three, four pages after that, I believe.

24ALJ WILLIAMS: Got it. Thank you.25THE WITNESS: Yep. So the lines I

116 1 referenced there, your Honor, were the paragraph on 2 the first page that began with "We have become aware" 3 and then also the paragraph on the second page that also begins with "We have become aware." 4 5 ALJ WILLIAMS: PDF 26 and 27. Got it. 6 Thank you. 7 (By Mr. Margard) Was this submitted, do 0. 8 you know, as a result of conversations that the Company had with Nordex? 9 Yes. Otherwise I don't believe Nordex 10 Α. 11 would have been aware that this misinterpretation was 12 happening. 13 And is this consistent with your general Ο. 14 understanding of safety manuals for turbine 15 manufacturers? 16 Α. Yes. MR. MARGARD: That's all I have. 17 Thank 18 you, your Honor. 19 ALJ AGRANOFF: Thank you. 20 Mr. Secrest. 21 MR. SECREST: Thank you, your Honor. May 2.2 I have about 5 minutes to confer with counsel? 23 ALJ AGRANOFF: Certainly. 24 MR. SECREST: Thank you. 25 ALJ AGRANOFF: Why don't we -- we'll give

117 1 you -- let's give you 10 minutes just so you can --2 MR. SECREST: I'll take it. 3 ALJ AGRANOFF: Okay. Come back at 2:50. Let's go off the record. Thank you. 4 5 (Recess taken.) ALJ AGRANOFF: Let's go back on the 6 7 record at this time, please. 8 And, Mr. Secrest, if you would care to 9 proceed with your redirect. 10 MR. SECREST: Thank you, your Honor. 11 Appreciate it. 12 ALJ AGRANOFF: No problem. 13 14 REDIRECT EXAMINATION 15 By Mr. Secrest: 16 Mr. Pedder, on cross-examination you were Ο. asked questions related to ice throw and specifically 17 18 portions of Exhibit 1, the Application narrative addressing ice throw. Do you recall those questions? 19 20 T do. Α. 21 Did the Applicant also have an ice throw Q. 22 analysis conducted as part of the application process? 23 24 Α. Yes. 25 And is that contained within Exhibit L of Ο.

1 Exhibit 1, the Application? 2 Α. Yes. 3 Ο. Okay. Generally what was the conclusion and results of the ice throw analysis? 4 I have Exhibit L here in front of me. 5 Α. Generally the results of Exhibit L found that the 6 7 project is in adherence with the requirements set 8 forth in -- I believe in Ohio code that the project 9 have less than a 0.1 percent chance -- 0.1 percent 10 probability that -- I believe the OPSB safety 11 consideration is 1 percent annually, but the project 12 has an annual impact probability for a 1 kilogram ice 13 fragment to reach a road I believe at 0.1 percent and 14 then at a nonparticipating parcel line that 15 probability is at 0.01 percent. 16 And so the -- while the maximum distance is discussed in the safety manuals, the probability 17 18 that that occurs is very low, and as outlined here in 19 Exhibit L as well, this all assumes a breakdown in 20 the control mechanism of the turbine, and so while 21 the turbine is discussed with the GE model should 22 cease operations during ice accumulation, the analysis for impact probability as well as the 23 maximum distance calculations all assume a breakdown 24 of that control mechanism. 25

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 1
             Ο.
                  Sorry. The conclusions of the ice throw
 2
      analysis, were those contained on page 4 of Exhibit
 3
      L?
 4
             Α.
                  Yes.
 5
                  MR. SECREST: Okay. Thank you,
      Mr. Pedder.
 6
 7
                  Your Honor, no further questions. Thank
 8
      you.
 9
                  ALJ AGRANOFF:
                                 Thank you.
10
                  Based on that very limited redirect, any
11
      recross, Mr. Van Kley?
12
                  MR. VAN KLEY: No, your Honor.
                  ALJ AGRANOFF: Okay. Thank you.
13
14
                  Mr. Pedder, I believe you are excused
15
      unless -- one moment. Any questions from Judge
      Williams?
16
17
                  ALJ WILLIAMS: I have no questions.
18
                  ALJ AGRANOFF: Okay. I did have one
19
      question.
20
21
                           EXAMINATION
22
      By ALJ Agranoff:
23
                  We had testimony where we were
             0.
24
      continuously talking about receptors.
25
             Α.
                  Yes.
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1 How are those receptors actually 0. 2 identified or determined for the purposes of their locations? 3 I believe -- I think that it was outlined 4 Α. somewhere in the Application, but I believe that 5 6 receptors were identified through both GIS mapping, I 7 believe also aerial photography that I believe Apex 8 conducted to determine receptor locations as well as general updated imagery for the area as well as I 9 10 believe potentially 911 data. 11 So those were the different criteria that 0. 12 was utilized for the purposes of selecting receptor sites? 13 14 Yes, I believe so. Are you asking what Α. 15 would be a receptor or how we identify what had --16 where the receptors are? 17 Ο. How you selected the receptor sites. 18 I think I answered that question. Did --Α. 19 was there -- is there any other information on that 20 you were looking for? 21 ALJ AGRANOFF: No. I think that gave me 22 enough information. 23 Based on that one question, anything further from counsel? 24 25 MR. SECREST: No, your Honor.

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1	ALJ AGRANOFF: Thank you, Mr. Pedder.
2	THE WITNESS: Thank you very much.
3	ALJ AGRANOFF: Mr. Secrest, at this time
4	do you care to move the identified exhibits?
5	MR. SECREST: Please, your Honor.
б	Applicant would move for the admission of Applicant's
7	Exhibit 1 through 31 as well as 82.
8	ALJ AGRANOFF: Any objection to the
9	admission of those exhibits?
10	There being none, the aforementioned
11	exhibits shall be admitted as part of the record at
12	this time.
13	(EXHIBITS ADMITTED INTO EVIDENCE.)
14	ALJ AGRANOFF: And again, as we've
15	discussed earlier, if you can please e-mail those
16	exhibits to Armstrong & Okey tomorrow, that would be
17	appreciated.
18	Okay. We are certainly ahead of schedule
19	obviously since we expected Mr. Pedder to actually
20	roll over into tomorrow. And if I understand
21	correctly, Mr. Margard, at this moment there are no
22	Staff witnesses prepared to
23	MR. MARGARD: Yeah. I am still trying to
24	track folks down. I think I probably have one for
25	you tomorrow, but I need to confirm that. The rest

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122 1 of my -- it doesn't look like they are available 2 until Wednesday so. But I may have Mr. Bellamy ready 3 I don't have anybody on tap at the moment. tomorrow. ALJ WILLIAMS: Give people a chance to 4 5 prepare. Let's get one for tomorrow and let's 6 contemplate three for Wednesday. 7 MR. MARGARD: How many for Wednesday? 8 ALJ WILLIAMS: Try three for Wednesday. Give us somewhere in the range of seven or eight 9 10 hours of testimony if we get to them. 11 MR. MARGARD: I'll see what I can do. 12 ALJ WILLIAMS: And I think the plan would 13 be, to the extent we have witnesses who are going to 14 testify that day, to have them all log on 8:45 or so, 15 make sure the technology is working, and then 16 obviously we'll tell them they can go until they are 17 ready to take the stand. 18 MR. MARGARD: I understand. We are off, 19 yes? Or are we on? 20 ALJ WILLIAMS: You're on. ALJ AGRANOFF: We are still on the 21 22 record. MR. MARGARD: I wanted to ensure the 23 24 invitations had been sent to all of the witnesses, 25 so.

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1	ALJ WILLIAMS: The witnesses are expected
2	to log on and register to testify. That's been a
3	change of protocol that went out Friday. So if there
4	is a question regarding that, there should be an
5	e-mail that I think Ms. Fischer issued on Friday.
б	MR. MARGARD: I think I forwarded that.
7	I just need to confirm that my folks have received it
8	and registered. Thank you.
9	ALJ WILLIAMS: No problem at all. Any
10	other ancillary matters we can attend to this
11	afternoon that will keep this case moving
12	efficiently?
13	MR. SECREST: Your Honor, may I inquire?
14	Mr. Van Kley had previously indicated that he thought
15	that his cross-examination estimates would need
16	revision as we've gone along today. That would
17	really be helpful for purposes of our planning and
18	letting our witnesses know when they may be actually
19	testifying. If, Mr. Van Kley, you wouldn't mind
20	actually providing re-estimates for our witnesses.
21	MR. VAN KLEY: I think, based on my best
22	guesstimates, Good and Farmer should each go for
23	about three hours. That's my guess. So that's the
24	estimate, from five hours to three hours, but I would
25	think at the very least we can finish both of those

124 witnesses tomorrow. Whereas, we had thought that 1 2 Farmer would continue -- continue over into 3 Wednesday. 4 MR. SECREST: Thank you. 5 ALJ WILLIAMS: Contemplating Witness 6 Bellamy as well tomorrow then? 7 MR. MARGARD: I'm hoping, yes. 8 ALJ WILLIAMS: Okay. I just want the 9 parties to be prepared to address questions to that 10 witness if that does occur. 11 MR. VAN KLEY: Would Mr. Good be your 12 first witness tomorrow then? 13 MR. SECREST: Yes, he will be. 14 MR. VAN KLEY: Okay. 15 ALJ AGRANOFF: And, Mr. Margard, you will 16 have three witnesses identified for Wednesday to the 17 extent that Mr. Bellamy goes tomorrow? 18 MR. MARGARD: That's my intention, yes, 19 your Honor. 20 ALJ AGRANOFF: Thank you. 21 ALJ WILLIAMS: Anything else we can do 22 today? 23 Ms. Gibson, you can give your hands a 24 rest, I guess. Nice to be running on time or a 25 little ahead of schedule. Jay, do you want to get us

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1 out of here? 2 ALJ AGRANOFF: We have a game plan for tomorrow. We will begin with Mr. Good and then 3 Mr. Farmer and then possibly Mr. Bellamy, and we will 4 5 begin at 9:00 a.m. ALJ WILLIAMS: Let's have the witnesses 6 7 who are going to testify tomorrow, have them on at or 8 around 8:45 to make sure their technology is working. Any questions, get ahold of us per our prior 9 10 communications. 11 I see something in chat. Let me make 12 sure. That's not directed toward me. So okay. 13 Anybody else have any questions? 14 ALJ AGRANOFF: Appreciate everybody's 15 help today. 16 ALJ WILLIAMS: We're adjourned. Thank 17 you. 18 (Thereupon at 3:03 p.m., the hearing was 19 adjourned.) 20 21 22 23 24 25

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1	CERTIFICATE
2	I do hereby certify that the foregoing is a
3	true and correct transcript of the proceedings taken
4	by me in this matter on Monday, October 5, 2020, and
5	carefully compared with my original stenographic
6	notes.
7	
8	Karen Sue Gibson, Registered Merit Reporter.
9	
10	Carolyn M. Burke, Registered
11	Professional Reporter.
12	(KSG-6968)
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Summary: Transcript in the matter of Firelands Wind, LLC hearing held on 10/05/20 - Volume I electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Gibson, Karen Sue Mrs.