In The Matter Of:

LIVINGSTON COUNTY ZONING BOARD OF APPEALS

April 27, 2015

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LIVINGSTON COUNTY ZONING BOARD OF APPEALS
CASE SU-7-14
PLEASANT RIDGE WIND ENERGY PROJECT

April 27, 2015
6:30 PM
Livingston County Historic Courthouse
112 West Madison Street
Pontiac, Illinois

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Page 3651

INDEX OF PRESENTERS

	Page
MICHAEL HANKARD	
QUESTIONS BY MR. LUETKEHANS.....	3683
QUESTIONS BY MR. HAYES.....	3687
QUESTIONS BY BOARD MEMBER HUISMAN.....	3690
QUESTIONS BY CHAIRMAN CORNALE.....	3694
QUESTIONS BY BOARD MEMBER VITZTHUM.....	3698

REBUTTAL WITNESSES

DR. MARK ROBERTS	
QUESTIONS BY MR. BLAZER.....	3709
QUESTIONS BY BOARD MEMBER HUISMAN.....	3729
QUESTIONS BY MR. LUETKEHANS.....	3734
QUESTIONS BY MR. CAVAZOS.....	3756
QUESTIONS BY MR. JOHN SLAGEL.....	3760
QUESTIONS BY MR. HAYES.....	3764
QUESTIONS BY MS. KELSON.....	3768
QUESTIONS BY MR. KNAUER.....	3773
QUESTIONS BY MR. DAVID SLAGEL.....	3774
MICHAEL HANKARD	
QUESTIONS BY MR. BLAZER.....	3777

Page 3652

(Commencing at 6:45 p.m.)

CHAIRMAN CORNALE: Chuck, roll call please.

MR. SCHOPP: This is the April 27th, 2015, continuation hearing of Livingston County Zoning Board of Appeals review of Livingston County Zoning Case SU-7-14, Pleasant Ridge Energy, LLC, Pleasant Ridge Wind Energy Project. Roll call. Michael Cornale.

CHAIRMAN CORNALE: Here.

MR. SCHOPP: John Vitzthum.

MR. VITZTHUM: Here.

MR. SCHOPP: Richard Kiefer. Diana Iverson. Howard Zimmerman. And Joan Huisman will be here, but she'll be late.

CHAIRMAN CORNALE: All right. Welcome everybody here for our 29th meeting. We're gaining on it. We're doing good. Got a few things that we need to take care of tonight. We're going to look at a few exhibits and we're going to look at some motions that have been presented. There's objection to the Marcus Maier testimony. We're going to look at a few other administrative matters.

We discussed at the end of the last

Page 3653

meeting Ms. Severson had a question about an exhibit. I have been told that the link has been corrected on the website, so that should be available for those interested in that.

Next matter, Nelson Zehr exhibit. The PowerPoint was admitted into the record on March 10, 2015, as UCLC Exhibit 8, so that was taken at the time we seen it.

For the record, I just want to confirm that there is no UCLC Exhibit 5.

MR. LUETKEHANS: Correct.

CHAIRMAN CORNALE: Mr. Luetkehans, can you confirm that for me please?

MR. LUETKEHANS: Correct.

CHAIRMAN CORNALE: Okay. All right, Mr. Luetkehans, can you fill us in on the status of the Jon Freed letter?

MR. LUETKEHANS: You know, we have not heard anything, so I don't have any update. I can't really tell you one way or another at this point. I'm not really expecting much would be my guess.

CHAIRMAN CORNALE: Okay, all right, fair enough. With regard to the next item, it's the status of the Pleasant Ridge Exhibit 130C, Statement

Page 3654

of Compliance on the A-Design Assessment admitted by agreement or authenticated by Parzyck.

MR. LUETKEHANS: No objection to the admission of 130C.

CHAIRMAN CORNALE: No objection, all right.

MR. BLAZER: For the record, Mr. Chairman, that's the certificate of design and compliance for the GE 1.79-100 turbine.

CHAIRMAN CORNALE: All right. The county at this point will accept Pleasant Ridge Exhibit 130C, Statement of Compliance on the A-Design Assessment.

Expected to be populated on the website should be a list of interested parties entitled to make a closing statement. So if you have provided testimony previously, I guess check the county website to be certain that you are on that list. You will have the option to make a closing statement, to make a closing statement. So just verify that you are on that list. If for some reason you're not, let us know and we'll get you on there. So that's all the administrative things that we need to take care of.

Page 3655

Okay, let's go ahead and we'll discuss at this point the Maier testimony. Mr. Blazer, can you -- can you fill us in on your position with regards to this, and then we'll allow Mr. Luetkehans to do the same.

MR. LUETKEHANS: Mr. Chairman, can I just suggest, he's got approximately nine -- eight or nine items that he's complaining of. I think in order to better understand this, it would be better to do this one at a time instead of all eight and me trying to respond to all eight. I think it would be a lot cleaner for the board to understand everybody's position. He's got A through H.

CHAIRMAN CORNALE: All right. Yeah, that seems reasonable, why don't we go ahead with that? Mr. Blazer, go ahead and --

MR. BLAZER: Actually, Mr. Chairman, I was hoping you would simply -- since you've had my motion for some time, I was hoping we would just hear Mr. Luetkehans's response. I'll say it in general terms.

My motion provides -- as you know, Mr. Maier testified on the day that you ruled that Mr. Rand's report would be -- and any testimony

Page 3656

regarding that report would be stricken from the record. It's -- in our view, it's clear that Mr. Maier's presentation and testimony were an effort to circumvent that ruling. Mr. Maier acknowledged both in his presentation and in his testimony that he is not an expert in acoustics, he is not an attorney, he's not an expert in any of the subjects that he purported to speak about or present about. Yet, he purported to present the law in Illinois regarding noise modelling, acoustic issues, all sorts of things that he clearly wasn't qualified to testify about, and that because of that, under the rules of this board, are not relevant to this proceeding.

Specifically, in terms of the -- it's not just A through H because there are also two other exhibits that he tried to introduce, but it includes number 1 or A, if Mr. Luetkehans wants to respond to that one first, the requirements of Illinois law regarding what constitutes Class A property and who has the burden of proof regarding that issue, which is, per my motion, that's Mr. Maier's presentation at slide 8.

Phil, you want me to go through all of them or do you want to respond --

Page 3657

MR. LUETKEHANS: I can do them one at a time I think would be appropriate.

CHAIRMAN CORNALE: All right.

MR. LUETKEHANS: Let's start with that. Maier presentation slide 8. Let's look at Maier presentation slide 8. It's a direct quote of Illinois Chapter 35, Section 901.102, which has already been cited and it's actually Exhibit -- and I don't remember the exhibit, I can find it for you, but a part of that is an exhibit already that was a Pleasant Ridge exhibit. Anybody has the right to put in what a statute says. To say he can't put in a statute is absolutely ludicrous.

As far as the burden of proof, the law is clear, he's right, and you're going to hear that in closing argument, but the burden of proof is on the applicant. It's a special use. It's their burden. No matter whether it's noise or anything else, it's their burden to meet the special use standards. And that's just Hornbook law in Illinois. It doesn't take a lawyer, it doesn't take anybody else to tell you or to say that. It's just a pure statement. It's a statement of the law.

And the other thing. His quoting from

Page 3658

slide 8, as I said, is right out of the section of the statute, right out of the statute or the IC -- JCAR regs, the IPCB regs that have been cited and put before you already and you will be hearing a lot about over the next several weeks or two weeks, whatever we have left.

MR. BLAZER: Just briefly on that issue, Mr. Chairman, the specific part of slide 8 that's the problem is not the fact that Mr. Maier identified a section of the Illinois IPCB regulation 901.101. You will be hearing about that one from someone who's qualified to talk about it. The problem is the statements below that in that slide, below that citation, where Mr. Maier purports to say what that section means.

MR. LUETKEHANS: Mr. Chairman, that's actually slide 9, so --

MR. BLAZER: I'm looking at slide 8.

MR. LUETKEHANS: Well, you can --

MR. BLAZER: What part --

MR. LUETKEHANS: The pages are numbered, so I'm responding to the page number slide 8.

MR. BLAZER: So am I. Right here. This one (indicating). And he says, number one, the

Page 3659

entire property of a residence that is only a residence. What part of a residence that is also part of a family farm business is excluded from this Class A classification? And applicant needs to prove the area of the property that is used solely for farm business purposes and not used as residential. All of those are legal conclusions that he's not qualified to make, so --

MR. LUETKEHANS: We have let people give -- provide opinions throughout this hearing. He has provided an opinion as to what his belief of the statute is. It may or may not be right. It's for this board, the attorneys, for everyone else to advise this board as to what the proper standard is, and you'll be hearing about that very much in closing argument if not before.

So to strike this testimony is, you know, Mr. -- Mr. Maier had the right to give an opinion as to this.

MR. BLAZER: But the problem is whether or not Mr. Maier's opinion as a nonexpert regarding what Illinois law requires is relevant to this proceeding.

MR. LUETKEHANS: It goes to the weight not

Page 3660

the admissibility, Mr. Chairman.

CHAIRMAN CORNALE: Okay. Let's take and go through these and then we'll make a ruling on the entirety. So next letter.

MR. BLAZER: All right. Item B is the requirements of Illinois law regarding where noise measurements are to be conducted and the use of 1000 hertz 1 decibel narrowband noise contours. That's -- and I reference the portion of the transcript we discussed this, and then there are three different slides, 9, 11 and 38.

He purports to give not just his opinions regarding Illinois law but his opinions on acoustics, where again he's acknowledged that he's not qualified to give opinions on either one of those subjects.

And I'll just give one example. Number 9, it's the first one. Noise level predictions for Pleasant Ridge are not in compliance with IPCB's requirement to measure at the property line. He's purporting to give you an opinion as a nonexpert on IPCB requirements that measurements occur at the property line.

MR. LUETKEHANS: The measurements for

Page 3661

the IC -- under the IPCB requirements are at the property line, number one. That is the law. Number two, all he's saying is noise level predictions for Pleasant Ridge are not in compliance, and he's saying that they haven't predicted at the property line, which is the law. That's clearly the law. It's any receiving property. It's not this somehow receptor that's somewhere in the middle of the property. We've been hearing a lot of testimony of people living 4 or 500 feet from the property line, their home.

The law is that. It's a pure statement, it's a correct statement of the law, and one that anybody that can read the statute can understand. It's any receiving land. That's the language.

MR. BLAZER: It's actually not any receiving land, it's any receiving Class A land, which you'll hear about later this evening from Mr. --

MR. LUETKEHANS: And we all know that Class A is residential.

MR. BLAZER: But in any event, Mr. Maier is not qualified to testify regarding where you're supposed to make measurements, how you're supposed

Page 3662

to take measurements, what is or is not in compliance with the IPCB regulations. That's what he's purporting to do on these three slides. And again, as with everything else, it's an effort to circumvent your ruling with respect to Mr. Rand.

MR. LUETKEHANS: You know what? That's -- you have no idea what it's an effort for. You can say whatever you want, but you don't know what the effort was for. That's not your position, and if you want to talk to me about it, that's up to you, but you shouldn't be saying or this counsel should not be telling this board what my position is or what I was attempting to do. That's improper.

MR. BLAZER: If we then go to slide 11, Mr. Chairman, which is the next one that I mentioned, for example, if you look at the second bullet, applicant did not provide 1000 hertz 1 dB narrowband noise contours. No way to prove compliance at property lines. That's an acoustical opinion by someone who by his own admission isn't an acoustician, isn't an expert, can't render an opinion.

45 residents, 30 of which are nonparticipants, are predicted at 41 dB in the

Page 3663

predicted sound analysis results, no room for error. He can't qualify that either. He's not an expert.

MR. LUETKEHANS: The "no room for error" is simple math. We sat here, and in fact Mr. Griffin in a conversation when he had questions of Mr. Hankard -- actually Invenergy has pulled back from 41.4 and 41.5 to 41.0. It's not hard to know that there's no room for error there. Again, simple math, simple statements. It doesn't take anybody with -- a rocket scientist or an acoustician to know that 41.0 is right on the edge, and that's the statement that's being made here.

And 45 residents, 30 of which are nonparticipants, are predicted at 41 decibels. Again, that's a fact. That's in chart 16B. That's Pleasant Ridge Exhibit 16B. It's not hard to figure that out. Count them up.

MR. BLAZER: Number one, that's inconsistent with Mr. Hankard's testimony. Number two, the point that Mr. Luetkehans just made is that testimony was the result of Mr. Griffin asking questions of an acoustician, of an acknowledged expert, not of someone like Mr. Maier who isn't either of those.

Page 3664

The same thing goes for slide 38 where he basically concludes the same thing that he's saying in 9 and 11, it's just a conclusory kind of wrap-up of the first two that we talked about, so I think we've talked this one to death.

MR. LUETKEHANS: Well, let me respond. Let's go through this. The first one on slide 11 or slide -- I guess it's 11, the IPCB upper limit for nighttime noise levels is 41 decibels. We've heard Mr. Hankard testify to that. That's just a statement of someone else's testimony.

Applicant did not provide 1000 hertz 1 decibel narrowband noise contours. Didn't do it. We got into it with his cross. He knows how to do a contour map. He's done it elsewhere. He did provide it. That's in his cross-examination from 12/15 I think it is.

And then the fact that the rest of them are duplicative, this is the one that everything else flows from, and this is all -- this is all just facts, most of which are already -- 99 percent of which are already in the record. He can say what's already in the record. We've had many people comment on things that are already in the record,

Page 3665

including Ms. Fosdick who is the consultant of Invenergy.

MR. BLAZER: Ms. Fosdick didn't purport to provide acoustic opinions or --

MR. LUETKEHANS: Neither did Mr. Maier.

CHAIRMAN CORNALE: All right, why don't we do this? You get one shot at C and you get one shot at C.

MR. BLAZER: Thank you.

CHAIRMAN CORNALE: One time. We're not going to go back and forth.

MR. BLAZER: C is Mr. Maier's comments on the -- his opinion regarding the propriety of methodology used by Mr. Hankard and Dr. Schomer for the California Ridge noise analysis and the context of using that to validate the Pleasant Ridge model. That is a pure acoustic opinion which he's not qualified to make. That's the subject of two slides, 10 and 12, and portions of the transcript that I cite.

MR. LUETKEHANS: First of all, Mr. -- I think, if I'm not mistaken, Mr. Ambrose's review is already in evidence through Mr. Hartke, or at least it should be, I'm not really sure what happened with

Page 3666

that, but that was brought into evidence by Mr. Hartke and was allowed to come in.

Measurements were made during mandatory operation curtailment or harvesting months. That's just a fact. That's just an absolute fact. And I think you will find that Hankard's testimony was consistent with that.

MR. BLAZER: The next one is in which he claimed results of reviews of other operating wind projects by Rand and Ambrose. And I'll remind you, Mr. Chairman, this testimony was all a week before Mr. Hartke testified. And frankly, depending on how you rule today, that may raise an issue of whether or not the Ambrose letter, which is also a portion of Mr. Hartke's presentation, should or shouldn't remain in the record in this case, but --

MR. LUETKEHANS: Mr. Chairman, you already sustained D. I don't know why we're going over it. That was already sustained.

MR. BLAZER: I wasn't done actually, Phil, I wasn't done. I haven't interrupted you.

MR. LUETKEHANS: What's the --

MR. BLAZER: And this board, I'm talking about slides 15 and 16, you already sustained my

Page 3667

objection when Mr. Maier was testifying to this material, slides 15 and 16, where he talked about Rand, Ambrose, and then measured louder than predicted, and I gave you the transcript citations where you sustained my objections to these.

MR. LUETKEHANS: So I guess I'm at a loss as to what I'm responding to. Since the objection was already sustained, it's not in.

MR. BLAZER: All right. Well, then I'll move on.

MR. LUETKEHANS: I mean is there some other part that you're asking to be stricken other than the two that were already stricken?

MR. BLAZER: Not in this one.

MR. LUETKEHANS: Okay.

MR. BLAZER: Item E, the issue of the absence of facility design margins which, number one, is inconsistent with what Mr. Hankard testified to in January or in December, and that several residences could be over the IPCB limits. That's slides 11, 24, 25 and 40, which is a conclusory one, and I've identified the pages of the transcript where he spoke about these. These, again, are purely acoustic opinions by someone who isn't an

Page 3668

acoustician.

MR. LUETKEHANS: Okay, let's go through these one at a time. The opinion that no facility design margin is included. If you look at Hankard's testimony in cross-examination, he specifically says he didn't do that. He goes on to say he did a conservative analysis so he didn't need to do it, but he clearly said those exact words on cross-examination.

Second -- and, Mr. Blazer, you can shake your head as much as you want, but the record is what it is.

MR. BLAZER: Sure is.

MR. LUETKEHANS: And then he goes on to say no safety margin was stated in the Pleasant Ridge application. Again, that's the exact same thing he said in his testimony.

The prediction method used by the applicant, ISO 9613-2, has a plus or minus 3 decibel uncertainty out to 1000 meters. Again, that is direct testimony from Mr. Hankard that he admitted to in his cross-examination.

Finally, this plus or minus 3 decibel uncertainty becomes greater when the sound source is

Page 3669

above 30 meters. The turbine hub height is 80 meters. I specifically again asked Mr. Hankard about this, and he said that that is -- that he said that the levels that GE puts out are based upon 30 meters. Again, we have this uncertainty. Mr. Hankard admitted that.

MR. BLAZER: Mr. Hankard testified that the conservative factors utilized -- I'm sorry, I'll stop.

Item F is slide 28. And again, we have the meaning and the applicability of Illinois case law, and again you sustained my objection to that one, so I guess Mr. Luetkehans doesn't have a response to that one. But here you go one additional time where you did sustain my objection to him purporting to interpret Illinois case law.

Item G is the appropriateness of noise mitigation measures, including the qualities and impact of LNTE turbine blades, and that's slides 32 to 34, and again I cited the pages of the transcript. He can't possibly know what the qualities or effect of LNTE blades are. He's not an acoustician, he's not a GE engineer, he has no qualifications whatsoever.

Page 3670

MR. LUETKEHANS: Well, let's talk about what he is. He's a person who sat and listened to this testimony. If you look at slide 32, it says "LNTE blades have not been proven to be a sure remedy for noise issues." He's correct that that has not occurred in this case.

He then says -- he then states the difference, which is Hankard's testimony, and then he said, as his opinion as a resident, that the applicant should be required to show reduction in decibels via comparison documentation between measured levels. He's saying that they should be required to. They haven't been required to date.

This board may or may not decide that they've met their burden, but that's just an opinion that any person can say you should require that they do this, you should require they do that. The residents of this county have the right to tell you or to tell the county board what they expect out of the county board.

MR. BLAZER: My next one, the next subparagraph is item H, slides 36 and 42, where --

MR. LUETKEHANS: Again, this was sustained.

Page 3671

MR. BLAZER: Again, this was the relationship between setback distances and noise levels, which you did sustain. And, again, I mentioned the ones that you sustained principally to demonstrate that even though that evening we all recall went at breakneck speed with a lot of objections, there was a certain consistency -- yeah, we all remember that -- to the fact that you did rule, at least when you had the time to rule, that he wasn't qualified to render legal opinions and he wasn't qualified to render acoustical opinions. That's the point of my pointing out the ones where you did sustain.

MR. LUETKEHANS: If Mr. Blazer would get to the ones that we're actually ruling on, I would appreciate it, as I'm sure the board would.

MR. BLAZER: And then the next one, which is paragraph C which also refers -- paragraph 6, excuse me, relates to the Ambrose letter. As I point out, you sustained my objection to Mr. Maier's effort to discuss the subject of slide 17 which purports to rely on Ambrose for the conclusion that due to these deficiencies, California Ridge noise level compliance analysis should not be used to

Page 3672

validate Pleasant Ridge. So that's the same subject. He can't qualify the Ambrose letter. And you actually sustained my objection to slide 17 where he tried to do that.

Paragraph 7 --

MR. LUETKEHANS: Well, let's talk about, I mean just because you're still on paragraph 6, the slides 12 and 13 and 14 are the same argument I've already made, so I won't repeat that.

MR. BLAZER: They're 17 and 39, Phil.

MR. LUETKEHANS: And 17 you've already sustained, right? So why are we dealing with that? And conclusion -- 38 is the conclusion, summary of what I am saying. He's saying in his opinion they have not met their burden of proof in demonstrating compliance with the law. He's allowed that opinion based on the evidence that's before us.

MR. BLAZER: Well, actually 39 says "Applicant appears to have withheld pertinent information that has high probability to prove noncompliance with Illinois law." That's an expert conclusion by a nonexpert. It's also contrary to the others in this case.

Paragraph 7 --

Page 3673

MR. LUETKEHANS: He has the absolute right to say that he believes you withheld pertinent information.

MR. BLAZER: We move on to paragraph 7 and I point out the issue of the Ambrose letter is identical to the issue of the Rand report. Mr. Ambrose hasn't testified, isn't going to testify --

MR. LUETKEHANS: Why are we dealing with 7 at this point when you've already sustained it as it relates to Maier's testimony? If he's going -- if he wants to file a motion to Hartke, he should file a motion to Hartke.

MR. BLAZER: Except --

MR. LUETKEHANS: You can't backdoor this in.

MR. BLAZER: Because this hasn't been ruled on yet. The question of the Ambrose letter itself hasn't been ruled on yet, and Mr. Maier purported to rely on a letter from a purported expert who hasn't testified and won't, and it's the identical situation as with Rand. Rand didn't testify; you struck his report. Ambrose isn't testifying; you should strike his letter.

Then paragraph 8 is the Harrison article.

Page 3674

MR. LUETKEHANS: Can I respond to that?
MR. BLAZER: I'm sorry.
MR. LUETKEHANS: In fact, Chairman Cornale at the hearing, in order to be consistent, if it's the one I'm thinking about, "we'll consider the weight of this evidence in our decision and will allow it." So it goes to weight. You've already ruled on that. This isn't a motion to reconsider. This is a motion to strike certain exhibits that weren't ruled upon.
MR. BLAZER: I -- that transcript reference doesn't relate to this. Then finally paragraph 8 is Maier's reliance on the Harrison article from 2011.
MR. LUETKEHANS: I'm sorry, that's the one that was already ruled upon.
MR. BLAZER: I don't believe it was, but the Harrison article is again somebody's opinion regarding acoustics who isn't going to testify in this proceeding. If Mr. Maier were an expert, and this is one of the -- in this proceeding, one of the few things that Phil and I agree on. If Mr. Maier was an expert and he was going to show you an article from someone in their field, clearly he

Page 3675

could do that. Absolutely. No doubt whatsoever.
The problem is he's not an acoustician and he's trying to present to you an opinion from someone who wrote -- someone who happens to be, say, on the board of directors of the Society for Wind Vigilance, which is in the record -- an opinion regarding acoustics. He can't do that. If Rand was here, he could have done that. If Ambrose was here, he could have done that. Mr. Hankard's here and could theoretically do that, but Mr. Maier can't.
MR. LUETKEHANS: Okay, I have a few things to say about that. One, page 2976 of the transcript says, when Mr. Blazer's objecting to the Ambrose -- or he's objecting to a document, California Ridge -- related to California Ridge, the chairman says, "Neither of these speaks specifically to the Pleasant Ridge wind project, so on the same basis that we accepted your motion earlier, we have to deny your objection at this point."
Then we go on to page 2985 and say we'll consider the weight of this evidence -- this is Exhibit 132 which is the Harrison report. "We'll consider the weight of this evidence, Exhibit 132, in our decision, and we'll allow it at this point."

Page 3676

Further, just as an overall, on page 2973, Chairman Cornale gave the statement, "This is an opinion and it's regarding what is Class A property. Mr. Maier can have an opinion on this, so we'll allow it."
MR. BLAZER: Page 2973?
MR. LUETKEHANS: Yes.
MR. BLAZER: The pages I'm looking at, the pages that we cite for everything we're talking about tonight are in the --
MR. LUETKEHANS: It's a general statement.
MR. BLAZER: -- 1400s.
MR. LUETKEHANS: It's a general statement. What? I don't know what you're looking at, but the exhibit I -- the ones that I have start at 2900 --
MR. BLAZER: I'm sorry.
MR. LUETKEHANS: 2967 it starts.
MR. BLAZER: You're correct, I'm sorry. I was looking at paragraph -- I think we've said enough, Mr. Chairman. I think at this point we would really like to get a ruling so we can move on with the witnesses.
CHAIRMAN CORNALE: Okay. All right. We have heard both sides of this. I guess where we're

Page 3677

at, to be certain as we move forward with this that this testimony hasn't already been stricken and -- we need to have this legally reviewed on both sides of me here. I have some preliminary thoughts on it, but at the same time, if I've already -- if I've already allowed or not allowed certain portions, then I'm going to be going back on earlier decisions, and I want this -- I want these decisions to be consistent with previous decisions.
The only way we're going to get that sorted out is if we dig deeper into the transcripts. Mr. Blakeman has alluded that he can do that for me. Because we -- because it was just one after the other objection, there was some that we ruled, some that we didn't, and we really need to be clear on what we have and have not.
So we will -- we've taken both sides, the discussion about it is over, and I feel certain that by the next meeting we can have a, kind of a decision made regarding portions. The way I see it now is parts will be allowed and parts will be denied. So to allude to those parts, I can't do that right now. So --
MR. BLAZER: What I'd like to do then, Mr.

Page 3678

Chairman, and I understand completely, and I discussed this with Tom, with Mr. Blakeman. Because we didn't know how you were going to rule, I have Mr. Hankard prepared to either respond or not respond to the Maier presentation.

What I propose is he respond to the Maier presentation just so we don't have to bring him back again, but that wouldn't be a waiver of all of the objections I have, and at the end of the day, if there are certain portions that you agree with me on, we'll just strike all of that, and so that way at least we can get everything in, then you can deal with it on Wednesday. Does that --

CHAIRMAN CORNALE: That seems -- that seems reasonable. I mean it was similar to what we let Mr. Maier do actually, I mean proceed with his comments, and then we kind of advised him that we may possibly strike some of it. So, okay, that seems reasonable. So let's --

Mr. Luetkehans, is that -- does that seem fair or consistent?

MR. LUETKEHANS: Yeah, and I guess I will -- yeah, I don't have a problem with if this board later -- I mean obviously I disagree with any

Page 3679

striking of this, but if the board takes this under advisement and strikes it later or decides whatever it does later, that's acceptable, that's fine.

CHAIRMAN CORNALE: All right, certainly in an effort of keeping the evening moving along. I can see you guys could discuss this for several hours.

MR. BLAZER: Not us.

CHAIRMAN CORNALE: All right. What we're going to do now is I promised everyone we were going to -- there were some additional questions of Mr. Hankard. We were going to have Mr. Hankard come forward. We were going to have some questions of him. I think everybody maybe has some additional questions of him.

MR. BLAZER: If I may, Mr. Chairman, what I was going to do, I actually had Dr. Roberts teed up to go first, and then -- if you'd rather do the direct of Hankard first, he can certainly do that.

CHAIRMAN CORNALE: Yeah, I think more important is in the whole process --

MR. BLAZER: That's fine.

CHAIRMAN CORNALE: -- so that we can -- we can say, okay, we're done with that portion and

Page 3680

we're moving to rebuttal, and then we'll explain all the rules.

MR. BLAZER: Okay by me.

CHAIRMAN CORNALE: Mr. Hankard, come on up. All right, Mr. Hankard, I just want to remind you that you are still -- you've been previously sworn in, you're under oath, so I guess we'll work our way through our normal order for questions, and we may -- we will continue to reserve the right. We may allow some others to ask some questions.

MR. BLAZER: If I can ask, Mr. Chairman --

CHAIRMAN CORNALE: Yes.

MR. BLAZER: -- my understanding from the transcript when we decided to defer him to a later date --

CHAIRMAN CORNALE: Right.

MR. BLAZER: -- was it was with respect to Pleasant Ridge Exhibit 16A and 16B which are the list of -- the new list of LNTE blades, the list of model runs.

CHAIRMAN CORNALE: Okay.

MR. BLAZER: And then there was also the ISO standard that he had referred to that day. This was back in January. That those were the three

Page 3681

specific subjects that, I believe Mr. Luetkehans agrees with me, we discussed it last week, that were what was reserved the last time Mr. Hankard was here.

CHAIRMAN CORNALE: Okay, all right.

MR. BLAZER: And I have copies of those if you need them.

CHAIRMAN CORNALE: Sure. Okay, we will -- okay, Mr. Luetkehans, Mr. Blazer alluded that you have previously spoke about that. Is that a correct statement?

MR. LUETKEHANS: We have spoken a number of times, it's never been quite that clear, but I don't think we're going to -- I don't think we're going to get into a fight about that here in the next five minutes when we do this.

CHAIRMAN CORNALE: All right. I guess I would like to stress to the audience that you will have the opportunity to further question Mr. Hankard too. You will need to try to address your questions with regard to these particular exhibits. I believe one had to do with the LNTE blade configuration, some ISO standards, and the third one was some model runs on the LNTE blades.

Page 3682

All right. With that, ZBA, do we have any questions at this point?
MS. HUISMAN: I don't.
CHAIRMAN CORNALE: Okay. The ZBA, just as a reminder to everyone in the audience and Mr. Blazer and his witnesses, we continue -- throughout these proceedings, we continue to reserve the right to ask questions of any exhibit, any information of any witness with no limitation to our question range, just so we're all clear on this.
All right, I'll call them in order. Units of local government or school districts? All right.
MR. LUETKEHANS: Mike, did you give him two or three exhibits?
MR. BLAZER: Two.
MR. LUETKEHANS: Oh, you're not giving him the third one, the ISO standard?
MR. BLAZER: Oh.
CHAIRMAN CORNALE: All right, Mr. Luetkehans, are you ready to go with your questions?
MR. LUETKEHANS: Sure, let me just --
MR. BLAZER: Let me see if I have that.
QUESTIONS BY
MR. LUETKEHANS:

Page 3683

Q. Okay, if you can look at -- do you have 16B in front of you, Mr. Hankard? Have they given you that or not?
A. I do.
Q. Okay. 16B, the first and second page, is with the 11 LNTE turbines, correct?
A. Correct.
Q. Okay. And with using the 11 LNTE turbines and the GE -- and that's the GE 1.79, correct?
A. The first two pages are the 1.79-100 turbine.
Q. That's where we're going to stay for a couple minutes. We have 25 participating and nonparticipating residents there at 41.0 and above decibels at the nighttime level of 1000 hertz on that chart, correct?
A. I will trust your math. You said how many?
Q. 25.
A. 25. I certainly see something on that order, sure.
Q. Okay. Of that 25, approximately 15 of these are nonparticipants, correct? I'll just go through them, 5, 92, 243, 270, 313, 329, 345, 388,

Page 3684

389, 396, 438, 439, 484, 502 and 748. If my math is right, that's 15, correct?
A. Sure. I didn't follow you to every one, but I --
Q. Okay, well, those are the ones that are --
A. I'm fine --
Q. -- nonparticipants, correct?
A. -- with that.
Q. Okay. Now, let's go to the next two pages which you might -- here's my back, front and back, so I don't know how yours are set up. This is the GE 1.72-103 turbine model for four LNTE turbines, correct?
A. Yes.
Q. Okay. Using this model, this chart, we have again 25 participating and nonparticipating residents that are at 41.0 and above decibels at the nighttime level at 1000 hertz, correct?
A. Again, without checking, I will assume that that's correct.
Q. Okay. And would you also assume that 16 of these are nonparticipants?
A. Same response.
Q. Okay. And these levels were all measured

Page 3685

at the residence, correct?
A. Well, not measured of course but predicted.
Q. Modelled at the residence.
A. Modelled, yes.
Q. And previous to this exhibit that we received for the first time on January 21st, these were all listed in the prior documents given to this board as 41 decibel level, correct? If it was 41.0 to 41.5, it was listed as 41, correct?
A. No, it was 40.0 -- or, excuse me, 41.0 to 41.4.
Q. Okay, I'm mistaken. Okay. Now, let's go to the fifth page. It says 100 meter blades, do you see that? Actually it says -- 100 meter blades, I'm sorry. This is really small.
A. Yes, I produced it, sorry about that.
Q. That's okay, I -- you know, I strained a little, but I got through it, how's that?
A. Okay.
Q. This is what exactly just for the record?
A. All right. So this is the next step, if you will, from these first tables that we just went over when the board had concern about the --

Page 3686

anything that was 41.1 to 41.4. So we went and added additional LNTE turbines to the model which brings the levels down, so these are the now predicted levels whereas no participating or nonparticipating residence has a 1000 hertz noise level at 41.0 or, excuse me, greater than 41. -- or greater than 41.0.

Q. Okay. And there are exactly -- there are five that are exactly at 41.0, correct?

A. Yes.

Q. And then there's another 32 properties between 40.5 and 40.9, correct?

A. I have not done that math, but --

Q. Would you assume that I'm correct? It's --

A. I can, subject to check, certainly assume that.

Q. Okay. Then the next chart is the same thing as page 5 except for it's 103 meter blades, correct?

A. Yes.

Q. And again, here we have five properties exactly at 41.0 decibels at the nighttime level for 1000 hertz, correct?

Page 3687

A. Yes.

Q. And would you also take my word that there are 29 properties between 40.5 and 40.9?

A. Subject to check, yes, I will.

MR. LUETKEHANS: Nothing further.

CHAIRMAN CORNALE: All right. Members of the audience, anybody have questions for Mr. Hankard, certainly with regard to these three exhibits that we've discussed? Anybody in the audience? Oh, I have one.

MR. HAYES: Yeah, just a real quick question and it deals with the rounding.

QUESTIONS BY

MR. HAYES:

Q. The 41.0, I'm sure the equation calculated a number after the zero. How did you determine that it -- was anything that was 41.01 would be considered over or did you round that also?

A. Well, the sound software itself is configured to round or to give its results to one-tenth of a decibel, so -- a decibel. So it spits out 41.0. So we did not do any additional rounding ourselves. That was done within the software I guess.

Page 3688

Q. So you don't know if the software's truncating or rounding.

A. Not off the top of my head I do not know. I would assume -- well, the data from GE is given -- the power level data that the model receives is to a tenth of a decibel, so there's really no rounding that goes on. The data that you input is to a tenth of a decibel and the data that you receive is to a tenth of a decibel, so there's no rounding that occurs.

Q. Well, that can be a little misleading based on significant figures there. So if you're putting in -- even though it may go to a tenth, if it's got a five significant figure input into the equation, you should be able to get a five significant figure out of it?

A. Right, but that's why people were only putting in one, so we can only get out one, because this whole processes starts with the data that we get from GE.

Q. Right, but you're putting in more than one significant figure.

A. No, we don't. That's --

Q. If you're only putting in one significant

Page 3689

figure, your answer would be to one significant figure, then you're limited to numbers like 10, 20, 30, 40.

A. Oh, I'm sorry.

Q. You must be --

A. When you said one significant figure, I thought you meant to a tenth of a decibel.

Q. Well, you're not -- unless I misunderstood that equation when I looked at it, it -- you know, at someplace in there, if it's going to calculate a decimal number, then somebody has to program it to either truncate, which means just drop the next number, or it's going to tell it to round, and I'm just wondering what it did. You know, it's kind of splitting hairs, it's a rather small little bit, so I'm just curious as to what it was. But I think you answered my question though, thank you.

CHAIRMAN CORNALE: Any other questions from the audience? Anybody else out there? All right. Back to the ZBA, do we have anything?

MS. HUISMAN: Yes.

CHAIRMAN CORNALE: All right.

QUESTIONS BY

MS. HUISMAN:

Page 3690

Q. Joan Huisman, Mr. Hankard. Did I understand you correctly that the pages that are very, very small print are the result of applying LNTE blades to those turbines in your model that were over the limit?

A. Well, no one turbine is necessarily over the limit. If I have a residence anywhere in the project, it might have one or two or three or four turbines that are influencing the total noise level at that residence. So if I want to reduce the predicted level at that residence, I need to choose one or more of these turbines to convert from a standard turbine to an LNTE turbine.

Q. So if I just look at the first turbine that's listed on any one of these pages, it's 005 --

A. Well, those aren't turbines, those are the residences.

Q. Those are receptors, okay.

MR. BLAZER: Ms. Huisman, just for the record, the list of additional turbines is Exhibit 16A.

MS. HUISMAN: Okay, thank you.

MR. SLAGEL: Where is this exhibit with one decimal point that you're all talking about? Is

Page 3691

it on the website? Can I see it?

CHAIRMAN CORNALE: All right, yeah, these are -- these are on the website. 16B, Pleasant Ridge Exhibit 16B. They have been previously submitted and accepted.

BY MS. HUISMAN:

Q. Okay, so if our numbers here at the 1000 hertz band are still at 41 and that's measured at the residence not at the property line, are you -- are you familiar with the Illinois law regarding sound requirements?

A. Absolutely.

Q. Class A property is, in your definition, what?

A. Class A property is listed in the LBCS code, the land use code, in the regulation as a household. That is the verbatim language from the regulation.

Q. And where does the measurement need to be taken for Class A property?

A. Well, Class A property is the household and at the household.

Q. Class A property doesn't include the entire parcel? So my parcel might include Class A

Page 3692

is my house, and the yard surrounding it is a different class?

A. Correct.

Q. That's your interpretation?

A. Yes.

Q. Okay. So that's how you interpret that the measurement can be made at the foundation of the home or residence to the turbine itself.

A. Correct.

Q. A turbine, how do we determine like what property that is? I mean are you measuring from what --

A. The model assumes the turbine is a point at the top of the tower, at the nacelle, the hub of the turbine.

Q. Okay.

A. That's where it assumes the noise is coming from.

Q. Okay. How do -- can you explain how these LNTE blades -- is it possible to reduce the effects of the sound at any of these residences? It seems like this is a hot issue for this -- for any wind farm. So how cost prohibitive is it for LNTE blades or what do -- what exactly is added to the blade

Page 3693

that reduces the sound that comes off of that?

A. It is the shape of the blade, so the trailing edge of the blade has serrations. It's actually modelled after an owl's wing. Noticed that owls have serrations and their flight is very quiet, and that led researchers literally to come up with this design of a serrated, looks like a bread knife kind of, on the back edge of the blade, and that allows the air flow to be -- to create less turbulence on the trailing edge. That allows the turbine to capture the same amount of energy but create less noise doing so.

Q. So once a turbine is constructed and it's up and operating and it's causing an issue at a nearby residence, can that low noise trailing edge be added after construction?

A. Yes, you can swap blades out on turbines.

Q. It's just a blade swap; it's not something you add to the current blade?

A. I'm not a turbine blade engineer, but I'm pretty sure you'd have to swap the blades out. That would be a question for -- definitively for someone else, but I'm pretty sure you have to swap the blades out.

Page 3694

Q. Okay.
MS. HUISMAN: Nothing else right now.
QUESTIONS BY
CHAIRMAN CORNALE:
Q. All right, Mr. Hankard, I have a couple questions. You alluded to 16B and this really small writing as these were your models?
A. Yes.
Q. Okay. Previously your testimony was based upon a report given to you by?
A. JoAnne Blank.
Q. From?
A. Stantec.
Q. Stantec, okay, okay. Did you -- as you looked at this and produced these results in 16A -- or 16B, sorry, did you entirely start the model new or did you assert given things from her model or her report and input those into your new data?
A. Right. No, these final results that you see in the small print, the rounded or nonrounded results if you will, were produced in the same manner. JoAnne Blank ran the software, but I dictated everything about how that model was set up. I oversaw the QA, the quality assurance of that by

Page 3695

comparing it with some of my spreadsheet calculations as well as having another office at Stantec run a different model, you know, same inputs, same algorithms but different software, so we really checked it three different ways.
So the results come from JoAnne Blank running this Wind Pro software, but I had everything to do with overseeing how that was done and then afterwards checking it to make sure that I agreed with the results.
Q. Okay, but you -- you physically yourself did not input, input this data. It was a -- you handed this job off to someone else?
A. Well, I don't like that terminology. Handing it off kind of means, here, you do it, I'm not involved. No, I'm the quarterback. I am responsible for these numbers and for everything in the way that they were put together. And, for example, with inputting the data into the model, I have JoAnne spit that out of the model so I can see exactly what she put in. I don't have to take her word for it; it's there on the output of the model. I can double-check, yes, okay, she put in what I asked her to put in and then we get the results that

Page 3696

we get.
Q. Okay. All of the results that are shown in the chart on 16B, they are, would it be fair to say, the expected worst possible -- the loudest possible readings or are these constant readings?
A. No, these in my personal opinion absolutely represent the maximum levels that you will ever see, and actually these are upwards of 2 dB greater I believe at 1000 hertz. That, you know, if we build this project and someone goes out and measures, I am a hundred percent confident you will see lower than these levels, and that's if you -- I'm talking if you measure over the course of days and weeks and months, which is sometimes required in these projects. You can't go out on any given afternoon and night and say this is what it is because conditions change and you need to collect a reasonable sampling of those conditions.
Q. So they make this level if they're averaged.
A. No. Again, these are the levels that I would expect, for example, with the turbines running full capacity and with the atmospheric conditions conducive to sound getting from the turbines to

Page 3697

wherever I'm measuring, so downwind, maybe a temperature inversion, at nighttime, you know, the worst case.
Q. Okay, and you -- as you stated there, you've possibly added a 2 dB buffer.
A. Where that comes from, why I say that, is because -- so on California Ridge, we measured for four months. We know, okay, we measured at -- the loudest that we measured is 39 decibels in the 1000 hertz band. I built a model of that very project in a completely similar way to the way I built the model for Pleasant Ridge, and I predicted out my measurement locations and it predicts a 41. So, in other words, it predicted a 41 and I measured a 39, so my model is 2 dB high.
So I used those same exact methodology, I apply that to Pleasant Ridge, so I expect you to be 2 dB high here as well in the 1000 hertz band.
Q. Okay. All right. Professionally, in your opinion, you feel that this adequately represents the worst expected outcome, possibly a 2 dB buffer, is that what I take from what I'm hearing?
A. That is exactly correct.
Q. Okay. All right.

Page 3698

CHAIRMAN CORNALE: Anything else come up? John, did you have anything?

QUESTIONS BY

MR. VITZTHUM:

Q. When you talk about 1000 hertz band, is that -- if you're further away, like what if you're measuring residence A at, say, a quarter of a mile away? Could it be louder at one and a half miles away?

A. No, it's -- sound diminishes with distance, and in addition, the atmosphere eats away at the sound level as well with distance, so there's no question that the level will be less loud the further away you are.

Q. Okay, is it louder downwind or upwind from -- is that the kind of conditions or what?

A. Well, there's two parts to that. When you're very close -- I've been very close to a turbine, very close as in a couple hundred feet, and I've taken measurements all the way around. And what you find is it's about the same upwind as downwind, so the turbine is putting out almost as much noise in either direction.

But now when you talk about being at the

Page 3699

distance that the residences typically are, 17, 1800 feet, 2,000, 3,000 feet, what have you, now the atmosphere starts to take over, and then in that case, yes, it's -- you know, when you're downwind of the source, it's going to be louder.

Q. And the reason I ask that, I'm three and a half miles from a windmill and I can hear it. And I hear it worse when it's blowing away from me.

A. That does -- that does not make sense to me as an acoustician based on what I know --

Q. And --

A. -- with all due respect.

Q. Well, that's okay. With all due respect, it woke my wife up and I'll have you argue with her, I ain't going to argue with her. And that's why I asked because is there chances of it being louder three miles away versus half a mile away or 80 yards away?

A. There are some atmospheric conditions that could occur. You can get -- but that's usually only with very low frequencies, this is more of this infrasound which we've been discussing here, but with the sound that you hear, the 1000 hertz, no, there would never really be a case where you would

Page 3700

expect that to be -- get, you know, louder and then quieter and then louder as you move down.

Q. Okay, but I guess if you're measuring 1000 hertz, then my question to you is what in the world am I hearing?

A. If you're three and a half miles away, I mean the atmosphere tends to take up that higher, so the further away you go, you're left with the lower frequency sounds.

Q. So the chance is somebody being closer, that they're not going to get that?

A. I'm afraid I don't understand that.

Q. Well, you said if I'm -- it's going to be easier to hear further away. Is that ever going to happen when you're closer? I mean the noise I hear at three and a half miles away would drive me nuts if I was a quarter of a mile away, so I guess I mean how come your tests don't pick none of that up?

A. I'm sorry, I'm struggling, I don't -- I don't understand your question.

Q. I mean if I look -- you say none of this should bother anybody. I'm saying that that sound does bother people. Why don't your models pick anything up that would bother a person?

Page 3701

A. Well, my model doesn't predict whether it bothers anybody. It predicts what the levels are and --

Q. So what level bothers a person I guess is what I'm asking. Why do you go at 1000 hertz? What level would bother a person?

A. Well, the reason we go at 1000 hertz is because that's what the -- drives the regulatory compliance on this project. That's the number that hits closest to the limit, so that's why we're talking about 1000 hertz, but of course we predicted all across the frequency spectrum.

MR. VITZTHUM: I don't have any more questions.

CHAIRMAN CORNALE: County staff or county counsel? Changing up on me here. All right, Mr. Hankard --

MR. CAVAZOS: May I ask a question? He testified to something after you asked people --

CHAIRMAN CORNALE: No, no, those were questions that we had, so he answered those questions, so unfortunately you missed your opportunity to ask a question.

All right, Mr. Hankard, you can go ahead

Page 3702

and sit down and we'll -- tell you what. Let's -- let's talk about this rebuttal and we can talk about that portion of the hearing, and then we'll take a little bit of a break after we talk about that, and if there's some questions, you guys can come up and I'll let you guys talk to counsel on both sides and try to work through those if there are any questions.

So we worked on some rules. I have them in front of me. I think I'll go through them and read them. We'll kind of further explain as we go through. All right, I'll let Mr. Blakeman read them.

MR. BLAKEMAN: Procedures for rebuttal and surrebuttal. Rebuttal is a procedure for the introduction of evidence by the applicant that answers --

MS. DASSOW: They can't hear you in the back.

MR. BLAKEMAN: Procedures --

AUDIENCE VOICE: That's better.

MR. BLAKEMAN: Okay. Procedures for rebuttal and surrebuttal. Rebuttal is the procedure for the introduction of evidence by the applicant

Page 3703

that answers evidence introduced by opposing parties. Surrebuttal is a procedure for opposing parties to answer evidence introduced in rebuttal by the applicant. Testimony or exhibits that are cumulative or attempts to introduce new evidence not intended to rebut or surrebut prior testimony or exhibits will not be allowed. Rebuttal and surrebuttal occur after applicant and all interested parties have presented evidence. After surrebuttal and rebuttal, there will be a presentation by the county followed by closing arguments.

Only applicant and interested parties who have previously submitted evidence shall be eligible to present evidence in rebuttal or surrebuttal. If you are represented by an attorney, your attorney will handle rebuttal or surrebuttal on your behalf.

Applicant shall present its evidence in rebuttal first. This evidence shall be confined to testimony and exhibits that explain, qualify, modify, discredit, refute or respond to evidence submitted by those interested parties in opposition to the application.

Rule number three. After each witness or applicant presents evidence in rebuttal, they shall

Page 3704

be subject to cross-examination in the following order: ZBA, units of local government including school districts, interested parties represented by an attorney, interested parties not represented by an attorney, ZBA again, Livingston County staff and consultants.

After applicant has submitted its rebuttal evidence and interested parties have had an opportunity to question the applicant's witnesses, those interested parties in opposition to the application shall present their evidence in surrebuttal. This evidence shall be limited to testimony and exhibits that explain, qualify, modify, discredit, refute or respond to the evidence submitted by applicant in rebuttal, including the rehabilitation of witnesses whose credibility has been attacked during rebuttal.

Number five. After each interested party presents evidence in surrebuttal, they shall be subject to cross-examination in the following order: ZBA, units of local government including school districts, applicant by its attorney, interested parties represented by an attorney if the witness is not a client of the attorney, attorneys may not

Page 3705

cross-examine their own client, interested parties not represented by an attorney, ZBA again, Livingston County staff and consultants.

Six. The scope, extent and admissibility of evidence in rebuttal and surrebuttal rests in the sole discretion of the ZBA.

If you have exhibits to produce, please have 15 hard copies clearly marked so the ZBA, staff attorneys and other interested parties can have a copy.

Number eight. Rebuttal or surrebuttal witnesses should identify which witness or witnesses and what testimony or exhibits presented by the opposing party are being rebutted or surrebutted. Before each witness testifies or each interested party conducts a cross-examination, the chairman of the ZBA shall be able to inquire as to the nature of the evidence to be presented and questions to be asked in cross-examination to determine if appropriate for rebuttal or surrebuttal.

Parties represented by attorneys may only call those witnesses which have been disclosed by April 10, 2015, unless authorized by the ZBA for good cause shown.

Page 3706

That's all ten rules. And we'll have this up on the website in the morning for the county.

CHAIRMAN CORNALE: All right, just want to clarify just a few things on here. Mr. Blakeman said only applicant and interested parties who have previously submitted evidence shall be eligible to present evidence in rebuttal or surrebuttal. I want that to extend to those that have testified. Just because you didn't necessarily produce a paper document, don't feel that you've lost your opportunity to rebut or to have surrebuttal, okay?

The other thing is, it's already on here, it's probably for the sake of keeping the rebuttal and surrebuttal concise to what we're doing. It says rebuttal or surrebuttal witnesses should identify which witness or witnesses and what testimony or exhibits presented by the opposing party are being rebutted or surrebutted. So that's going to -- we need to clearly spell out what particular portion we're rebutting or surrebutting to, all right? That will help to aid in keeping this evening moving along.

So with that, let's take ten minutes. If anybody has any questions, -- I've got 7:50, so

Page 3707

let's try to get going at 8:00. If you have any questions, come forward and we'll try to get an answer.

(Recess at 7:50 p.m. to 8:01 p.m.)

CHAIRMAN CORNALE: All right. We'll -- just a few things here. Next meeting, May 7th, it's going to be -- or, sorry, not the next meeting but the next scheduled meeting further out we're going to have for May 7th. The meeting will take place at seven o'clock. The reason there's a time change is the regular zoning board, our full board, will meet at 6:30. We have one case before us. We'll go ahead and end that particular meeting, and then we'll move into this meeting. So May 7th at seven o'clock.

MR. LUETKEHANS: Mr. Chairman, where's that at, do you know?

CHAIRMAN CORNALE: That's going to be here at the historic courthouse.

All right, the Patrick Engineering report, the county has hired consultants to validate or look at the facts presented in this case. The Patrick Engineering report is expected to be submitted on Wednesday, our next meeting on Wednesday. As I say

Page 3708

that, I want to remind everyone the Patrick Engineering report is a report that the county has commissioned to have produced. It's simply somewhat of a fact check by consultants that we've had a relationship with in the past. So that that will be taken.

Because it's of that nature, the questioning along that report will not, will not take place. We will allow that report. It's for advice only for us. We have a relationship with them, so we'll accept that report.

MR. LUETKEHANS: Mr. Chairman, just for the record, I understand what you're saying, but I do have to place an objection in the record in that this is exactly like the Rand report and the ability to cross-examine is not available to us. And under the Klaeren case, we should be given a right to cross-examine. Thank you.

CHAIRMAN CORNALE: Okay. To that, because of the relationship the county has with the individuals, we will accept that report without them testifying due to our past relationships and the nature of the report.

So with that, we'll go ahead and start our

Page 3709

rebuttal process. Mr. Blazer, you can begin.

MR. BLAZER: Thank you, Mr. Chairman, I'll call Dr. Mark Roberts.

(Dr. Mark Roberts called as rebuttal witness.)

CHAIRMAN CORNALE: Mr. Roberts, just want to remind you that from previous hearings you're still under oath for this part of the process as well.

DR. ROBERTS: Totally understand.

MR. BLAZER: Dr. Roberts, you're going to have keep your head on a swivel I suppose.

DR. ROBERTS: Well, I apologize to the audience for giving them my best side, but anyway --

MR. BLAZER: That might be a matter of opinion I suppose.

QUESTIONS BY

MR. BLAZER:

Q. You're aware, aren't you, Dr. Roberts, that there has been reference in these hearings to the so-called Cape Bridgewater report out of Australia?

A. Yes, I have.

Q. Okay. And have you reviewed that report?

Page 3710

A. In depth I have, sir.
Q. All right. I'm not going to ask you any questions about that report from an acoustic perspective, we'll save that for Mr. Hankard, so Mr. Punch in his testimony said that this study provides new proof that there is a cause/effect relationship between wind turbines and sensations. Do you agree with that statement?
A. I don't agree with the shared proof, that's correct.
Q. Mr. Punch also stated that this study provides definitive proof that wind turbines absolutely cause symptoms in some of the wind farm residents. Do you agree with that statement?
A. I absolutely do not agree with that.
Q. All right. Could you explain the basis for your disagreement from a medical and epidemiological perspective?
A. Well, I'll take it from the epidemiological standpoint first. As an epidemiologist, I look at these sorts of studies for their design not for who funded them or that sort of thing. First and foremost, their design --
MR. LUETKEHANS: Dr. Roberts, can you

Page 3711

speak a little closer? I'm having a real hard time hearing you, I apologize.
A. Gotcha.
MR. LUETKEHANS: Thank you.
A. Have to lean way over.
MR. LUETKEHANS: Sorry.
A. All right, I'll talk louder. Is that better? Okay. So as an epidemiologist, I look at the design, how it's put together. And you look at this and you look at what the author of this -- what Mr. Cooper actually said about it, it really and truly does not show proof of an association. In fact, you can't do that with this study.
There's been a number of discussions on the Internet about how great it is as an epidemiology --
MR. LUETKEHANS: Objection to what's on the Internet.
MR. BLAZER: That's been testified to in this proceeding, Mr. Chairman. Ms. Fehr, among others, when I asked her, said that she -- she didn't read the report. What she knew about the report she read on National Wind Watch which is on the Internet.

Page 3712

MR. LUETKEHANS: You know what? He's here to testify, he's here to respond to what the Cape Bridgewater says. He's not here to -- so where she found it or where she read it is irrelevant. You said he's here to respond to Punch. If he wants to respond to Punch, he should, and Punch didn't rely on the Internet.
CHAIRMAN CORNALE: All right, Mr. Roberts, why don't you just -- why don't you move on past that, and really let's move on past the Internet sources as best as we can.
BY MR. BLAZER:
Q. Let's try and focus on the report, Doctor, okay?
CHAIRMAN CORNALE: Perfect.
A. Done deal. Well, first of all, he looks at six individuals and three homes. That's a far cry from the number of people that are in that vicinity of that wind turbine farm. On page 218 of that study he says, "This study did not include any testing in relation to sleep disturbance or health effects." And I think it's really important that he makes this distinction between sensation and health effects. I don't quite understand what that means.

Page 3713

I see what he has defined that, but again, that does not -- he's not looking at health effects. And that's one of the major questions for you as a commission.
Secondly, the report shows there's no correlation between reported symptoms and wind turbine health issues if you use the definition of sensation that he has. And then at page 75 he also talks about there's no correlation in the results versus sensations either, so he's covering it both ways in his report. It's a long report and takes a lot to get through it, but the point being that there's no correlation between wind turbines and sensations or health effects if you use his definition.
Again, I talk about the fact that it's three homes, six individuals. Those are all individuals who have claimed adverse health effects as a result and have made complaints to the company. So again, it's biased, in fact, not only of what they're collect -- the information that they're collecting, but also in what epidemiologists call selection bias. Actually there's a selection. They didn't go out and choose people at random. They

Page 3714

chose six people who had complained about wind turbines.

So it's not an epidemiological study, and it shouldn't be given anything more than a mere observation of people who were complaining on that particular period of time. The other thing being that there were no -- there's no correlation between the wind turbine operations and the complaints.

So I think it's very, very important to keep in mind the bias issue and the selection issue in that it's not an epidemiological study.

Q. Sticking with Jerry Punch's testimony, you're aware that he based his opinions regarding adverse health effects in part on testimony or what he claimed to be testimony of others in legal proceedings in the U.S. and other countries?

A. I am aware of that.

Q. All right. And are you aware that when he was here Mr. Punch said that he didn't bring any of those materials with him to this proceeding because he said it was too tedious?

A. I was here and heard him say that.

Q. Are you familiar with some of those legal proceedings and the decisions that came out of them?

Page 3715

A. Yes, I am. I was kind of surprised that his slide number 31 talked about legal proceedings. As you go through and look for legal proceedings where various individuals have testified about the effects of wind turbines, such as Nina Pierpont for example, she coined the term wind turbine syndrome, in the Ontario Environmental Review Tribunal, they actually went through her opinions and they rejected those. Granted, it was on a procedural basis, but then following that, my testimony was used in a federal case in San Diego, in southern California, called the Tule case. And in that particular case, they found that her opinions were not acceptable to them and they found that my opinion and Dr. King's opinion from Ontario did reflect the opinions of the science. So --

Q. If I may interrupt for just a moment, Doctor, one opinion that you referred to from the Ontario Environmental Review Tribunal, was that the Wrightman matter, Pleasant Ridge Exhibit 280?

A. That is the Wrightman.

Q. And the Tule, T-U-L-E --

A. T-U-L-E wind project.

Q. That decision is already in evidence and I don't have the number on that.

A. No. 87.

Q. Thank you, 87. All right. And you also reviewed Pleasant Ridge Exhibit 285.

MR. LUETKEHANS: Can I object as to 280 here? First of all, Mr. -- Dr. Punch testified that he did not review or was not aware, had not reviewed the Ontario decision, so to say that somehow this is refuting the Ontario, his response to Ontario -- in fact, you didn't let 280 in because he had never seen it.

MR. BLAZER: If I can respond to that? Dr. Punch, as Dr. Roberts just testified, said that he relies in part for his opinion regarding adverse health effects on legal proceedings in this country and other countries, and several of the individuals he relied on, among others, include Dr. Pierpont.

MR. LUETKEHANS: And is there any testimony that he relied on Dr. Pierpont's testimony in any case, because there's not.

MR. BLAZER: He was using Dr. Pierpont and he identified Pierpont and several others as -- which we're going to go through in a few minutes -- as individuals that form the basis of his opinions

Page 3717

and I --

MR. LUETKEHANS: Yeah, but it's not these decisions, so --

MR. BLAZER: Can I please finish?

MR. LUETKEHANS: -- to say that --

MR. BLAZER: Can I please finish? So it's Mr. Punch who put into issue the question of whether or not the people that he relies on have in fact -- their opinions have, in fact, been accepted in legal proceedings.

MR. LUETKEHANS: But not in Ontario.

MR. BLAZER: He's the one though --

MR. LUETKEHANS: Excuse me, I apologize, I thought you were done.

MR. BLAZER: He's the one who put the issue in evidence at issue, whether or not those legal proceedings have, in fact, accepted the opinions that he's relying on.

MR. LUETKEHANS: So we're going to go through all these opinions, all these decisions that he didn't testify to somehow in rebuttal? Exhibit 280 and 285 weren't even allowed in because he had never seen them let alone relied on them.

CHAIRMAN CORNALE: All right. 280 wasn't

Page 3718

allowed in. Mr. Punch alluded to legal proceedings but did not identify any of them, so you can't rebut something that wasn't presented. He didn't identify any particular legal cases, so rebuttal to a specific legal case will not be allowed. So, Mr. Blazer, can you move on?

MR. BLAZER: Can I have an offer of proof just to go through quickly? No? You're not going to allow it. Tom is shaking his head.

MR. LUETKEHANS: For the record, I was already denied one in this hearing.

BY MR. BLAZER:

Q. All right. Let's move to the nocebo effect. You had spoken earlier at these hearings about the nocebo effect, correct?

A. That is correct.

Q. And you're aware that Mr. Punch testified that the nocebo effect is a psychogenic effect based on the patient's expectations and perceptions; is that correct?

A. I believe I recall that, that's correct.

Q. And do you agree with Mr. Punch that the nocebo effect was discovered a long time ago, well before the advent of utility scale wind turbines?

Page 3719

A. I do.

Q. All right. You were here for Mr. Hartke's testimony; is that correct?

A. That is correct.

Q. And you recall him talking about a town hall meeting that he attended and spoke at here in Livingston County last summer?

A. That is correct, I did hear that.

Q. All right. And have there been any peer-reviewed studies conducted on the impact of the presentation on that day?

A. Actually there's been a number of studies that have come out that looked at why this is evolving, and there's one particular study that has looked at all the wind turbine farms in operation in Australia at the time of that publication, which was in 2013. It's called Chapman. And basically they went through and they looked at the turbines and looked at complaints of those turbines, and they found that a majority of those turbines, those wind farms did not have complaints lodged against them, and these were even with the large turbines greater than 1 megawatt.

So what it really shows is that once there was started to be opposition to wind turbines, that the complaints began to increase in both numbers and in velocity if you will. And so it really -- this is a peer-reviewed published literature article looking at the phenomenon of how this has developed, and the underlying point is the fact about testimony like you heard is one of the things that builds these -- this concern about wind turbines.

And so this particular article, then another one by Knopper, K-N-O-P-P-E-R, in about 2011 also looked at these same issues on a larger scale. And what we're seeing is the development of it's a them-versus-us sort of situation in hearings such as this all over the country and in parts of the world.

Page 3720

Q. Doctor, I want to focus specifically on the impact of a presentation like Mr. Hartke and some others have testified to in this proceeding. I've handed you what's been marked as Pleasant Ridge Exhibit 272, an article dated December 12th, 2014. Are you familiar with this article?

A. I am.

Q. All right. And could you summarize this document or this article for us, this study?

A. Well, this is actually a follow-up to that about the nocebo effect in residences, which it's by the same author, Simon Chapman, and really explains the variation in the concerns and underscores the issue about nocebo. Nocebo is just the opposite of a placebo effect. A placebo effect is if you think the medication is going to help you, it's more likely to make you feel better. If you don't have faith in that, then a negative feeling about that treatment can adversely affect how you feel. Not necessarily your condition but how you feel about that.

So this is not a new phenomenon, but this is one that is seen more and more, which would be evident in the Cape Baywatch --

Q. Bridgewater.

A. Baywater -- Bridgewater, excuse me.

Q. Baywatch was a bad TV show.

A. Yeah, I didn't follow it. So this is actually an example of why you would see the phenomenon that you did in Bridgewater, the Cape Bridgewater evaluation.

Q. Now, what was the specific subject of this study, Pleasant Ridge 272?

A. Well, I mean the title talks about it

Page 3721

Page 3722

actually fomenting sickness, it actually enhances, it clearly brings it to attention.

Q. Was the subject of this study an anti-wind farm public meeting and the declaration of negative news?

A. It was.

Q. Okay. And what was the result of this study or the conclusion?

A. Well, it clearly indicates that meetings that foment that feeling about adverse opinions about wind turbines affects a person's feeling about the wind turbines.

Q. Now, Dr. Roberts, you reviewed the testimony of some of the other folks who have appeared in this hearing, correct?

A. I have.

Q. And some of those folks have said that they experienced something when they visited a wind farm. You're aware of that?

A. I am aware of that.

Q. All right. How do you explain that?

A. Well, I mean number one is the fact that each person showed emotion, I mean that's a human nature, a concern, but that's part of the issue that

Page 3723

comes up. That's why we need science, that's why we need to look at epidemiology, because if a person feels or begins to feel that wind turbines cause a health effect, that can affect their reporting of symptoms.

You know, I always talk about the fact of common symptoms like we're seeing, and one, Dr. Chapman I believe, reported 222 different types of symptoms have been in the literature concerning wind turbines. Many of those are ones that we experience on a weekly basis: headache, irritability, those sorts of things. Not vertigo. One of the persons reported vertigo. I don't -- I don't have the medical records, so I don't know how that was evaluated. That's dizziness and there's a number of different causes for dizziness.

The point being that, as I saw the testimony, the symptoms actually occurred prior to the exposure to the wind turbines. This is very important. You're not only looking at what they're reporting at the time of being around wind turbines but looking at their medical history, because as Dr. Ellenbogen testified back a month or so ago --

Q. Six months ago.

Page 3724

A. -- he said it was very, very important to look at the preexisting conditions of those individuals. So that's it in a nutshell.

Q. All right. Would it be fair to say that you've done an expansive study of the peer-reviewed literature around the world regarding purported health impacts from wind farms?

A. The English language literature, peer-reviewed literature --

MR. LUETKEHANS: Objection, duplicative. What -- this is not rebuttal of anything. What are we rebutting?

Q. I'll move on. You mentioned Dr. Ellenbogen and I want to ask you about one particular subject that Mr. Hayes raised. You're aware that Mr. Hayes made reference to a paper that Dr. Ellenbogen participated in in 2010. That's Hayes Exhibit 5.

A. That is correct.

Q. Okay. And was that document, Hayes Exhibit 5, the final peer-reviewed version of that 2010 study that Dr. Ellenbogen participated in?

A. No. The one that was Hayes No. 5 that I saw and read was actually a report from the research

Page 3725

coalition that was commissioned and Dr. Ellenbogen was one of the researchers involved in that, and so that was a report back to that coalition to answer the question about hospital noise.

Subsequent to that, Dr. Ellenbogen also participated in the Massachusetts Department of Environmental Protection's study on wind turbines and found no increased health effects associated with wind turbines. Then the paper by Buxton, which was the peer-reviewed published version of that, didn't even mention wind turbines.

So I think it shows an evolution of what we see in the science in the literature. An idea comes up, a report's generated about it, some sort of opinion is made about it, and then a study is done, and that's what we saw here with Dr. Ellenbogen.

Q. Doctor, do you have Pleasant Ridge Exhibit 334 there with you?

A. I do not. Oh, okay. I didn't recognize it as that.

Q. You do have that one?

A. I do.

Q. And is Pleasant Ridge Exhibit 334 the

Page 3726

final peer-reviewed version of the study that Dr. Ellenbogen began participating in in 2010 that was published in the Annals of Internal Medicine?

A. That is correct. This is the article that I referred to as the Buxton article, 2012, and it's in the Annals of Internal Medicine. So that's a peer-reviewed published article in a well-known journal.

Q. And you said that this one doesn't say anything about wind turbines?

A. That is correct, it does not.

Q. Why not?

A. I think when --

MR. LUETKEHANS: Objection, foundation. How's he supposed to know why not?

Q. Could you answer how you know that?

A. To answer your question, I called Dr. Ellenbogen when I saw this and asked him what -- what the deal was. And so I talked to him at length about it.

MR. LUETKEHANS: Objection, ask you to bring Dr. Ellenbogen in to talk about his own study.

MR. BLAZER: Well, the problem with --

MR. LUETKEHANS: He's available, he's

Page 3727

their witness, there's no reason that they should have hearsay on this issue.

MR. BLAZER: Two responses if I may, Mr. Chairman. Number one, hearsay has been allowed with experts. Even Mr. Luetkehans has acknowledged that an expert can testify to --

MR. LUETKEHANS: Not when the expert is available.

MR. BLAZER: Number two, I was required to disclose my rebuttal witnesses on March 25th, and it was made very clear to me that I would not have the opportunity to disclose any further witnesses after that date. Mr. Hayes testified about his Exhibit 5 after March 25. So the best we could do, as has been acknowledged in this case, is use the expert that we had disclosed, who clearly is familiar with the subject matter, to identify this report and why it contains no information regarding wind turbines.

MR. LUETKEHANS: Then they should have disclosed Dr. Ellenbogen.

CHAIRMAN CORNALE: All right, I think rebuttal does need to focus on what he can provide with direct regards to himself. I think he's trying to change the credibility or -- of another one of

Page 3728

your witnesses, and I would agree that if he is available, he should be able to rebut his own particular --

MR. BLAZER: I understand --

CHAIRMAN CORNALE: -- study.

MR. BLAZER: I understand, Mr. Chairman, but he's not available because I do not have the right per this board's rules to call Dr. Ellenbogen after I already had to disclose my rebuttal witnesses on March 25th, so he is not available.

MR. LUETKEHANS: And you had the right to disclose him at that time.

MR. BLAZER: Except --

MR. LUETKEHANS: You actually disclosed two other people who are not coming in to testify.

MR. BLAZER: Except that Mr. Hayes didn't testify -- didn't introduce this document, which clearly now we know is not a final version of the report, until after March 25th. So, no, he wasn't available.

CHAIRMAN CORNALE: All right. Counsel has advised me that unfortunately you should have disclosed the individual. We're going to allow the objection and we're just going to move on, so --

Page 3729

MR. BLAZER: All right. Well, with that, that's all I have for Dr. Roberts.

CHAIRMAN CORNALE: All right, thank you. All right, at this point, do we have any questions, ZBA, for Dr. Roberts?

MS. HUISMAN: Just one.

QUESTIONS BY

MS. HUISMAN:

Q. Dr. Roberts, you mentioned selection bias in the Cape Bridgewater study, six individuals that were cited, and I'll be honest, I didn't read the entire Cape Bridgewater study that was given to us.

A. I understand.

Q. It made sense to me, though, that if you're going to try to study the effect, if someone's claiming they have effects from wind turbines and I do not, why would anyone talk to me about that and ask me questions about it if I don't have effects, suffer from effects?

A. Excellent question. The point being that in epidemiology you have to compare the results of one group against the other. And so it's very important, because the symptoms and the sensations or whichever way he uses that, are common, you need

Page 3730

to make sure that they don't -- are not occurring in other people as well. So what's the background level of headache, dizziness, any of those sensations that he reported? So you don't have a comparison group. If I said three people in this room have headaches, we don't know if that's caused by this room, this process or whatever, so we really have to compare is that an unusual number? So it's very common. It's called selection bias.

Q. I guess I understand if you're doing -- I understand wanting to have people that maybe don't have effects, but how do you -- how does you -- how does a doctor learn about someone that's complaining of health problems if they don't start asking them questions, and then, you know, if they're leaning towards this is a major change in my life, I mean how do you just discard all that?

A. You don't discard that and I'm not saying that at all. In each of the individuals, the mother with the kids, the father with the kids that I reviewed their testimony, you know, I'm not discarding that at all. But what I'm saying is the fact that when you go to the doctor you don't say I have a brain tumor, treat me for a brain tumor. You

Page 3731

say these are my symptoms and then the doctor works through that. If you went in and said, Doctor, you know, I've been exposed to radiation, you know, I've smoked for 50 years and now I've got a terrible cough and pain in my chest, the doctor's automatically going to go that direction because we know what lung cancer symptoms are.

The case definition that Dr. McMurtry has brought out has not been validated, it's not been accepted, so we don't have a set of criteria that have been validated that it would be consistent with exposure to wind turbines.

Q. So let's say that someone might have preexisting conditions of, I don't know, I'm sensitive to -- I get motion sick if I ride in the back seat of a car. Will that some day if I'm by a wind turbine bother me more because I have that sensitivity to motion? I don't know, but then --

A. I mean --

Q. I guess I'm just trying to in my head reconcile how do you dismiss these folks that are saying they have problems and they might have preexisting conditions that do make them more susceptible to the effects where another person

Page 3732

doesn't have any effects from them?

A. Absolutely, and I appreciate the opportunity to talk about that. One of the things is dizziness is common. Car sickness is common. You know, I don't know the percentages, I can't give you that right off the top of my head, but the point being many of the symptoms that are reported to be associated with wind turbines are very common. So -- and those conditions that are more severe need to be worked out. As Dr. Ellenbogen said from his experience in Michigan, oftentimes ringing in the ears, for example, may indicate high blood pressure, it may involve something else.

So each person, each of these individuals that gave testimony, if they have symptoms, they should go to their doctor and talk to their doctor about the symptoms, not go in and say, hey, it's wind turbine syndrome, I know what it is, you know, treat me for it. You've really got to let the doctor do the evaluation.

The second thing is the fact that it's very curious that there are certain people that have complaints about wind turbines and others don't. We need to look at that. And that's one of the things

Page 3733

that's been talked about in the literature, that's one of the things that's being developed, but we understand you can't -- there are visual effects of wind turbines and there are perceived sound effects of wind turbines, so you've got to sort through all those things.

But we know that, for example, I'm not aware -- I mean there are wind turbine farms where there are no complaints at all period. So is it that sensitive people are in one spot in a wind farm? I don't think so. There's -- I don't know why they have complaints. It may be anxiety, it may be annoyance, and I talked to the council about that, about annoyance. Annoyance is not a disease, but I mean some people right now are annoyed in this room. It's not -- it's not a disease.

Q. Okay.

CHAIRMAN CORNALE: All right. Units of local government, school districts, any questions? All right. Mr. Luetkehans, do you have any questions for Dr. Roberts?

MR. LUETKEHANS: Yes, give me just a minute please.

CHAIRMAN CORNALE: All right.

Page 3734

QUESTIONS BY
MR. LUETKEHANS:
Q. Dr. Roberts, Pleasant Ridge Exhibit 272, it talks about a nocebo effect hypothesis, correct?
A. That is correct.
Q. Okay. There's no proof that there's a nocebo effect; it's an hypothesis.
A. In this situation, it's talking about nocebo effect from wind turbines. Nocebo effect is a recognized occurrence in medical treatment.
Q. Correct, but as it relates to wind turbines, it's just a hypothesis in this paper, correct?
A. In this particular paper, that's what it's entitled.
Q. In fact, you complained of Dr. Salt's testimony or Dr. Salt's position because it was -- you see it as just a hypothesis, correct?
A. That is correct.
Q. That's exactly what you said about Dr. Salt's position.
A. That is what I said about --
Q. It's a hypothesis.
A. -- Dr. Salt.

Page 3735

Q. Thank you. You would agree that it is not -- that Cape Bridgewater doesn't even intend -- doesn't even pretend or portend to be an epidemiological study, correct?
A. That is correct.
Q. In fact, Mr. Cooper when he wrote it says it's not. It's not a medical study, correct?
A. There's a difference between a medical study and an epidemiological study.
Q. Is it a medical study either?
A. No. No, it's not.
Q. Okay. He says it's not a medical study, correct?
A. I believe he did.
Q. Yeah. And you said you need to know the -- something about you need to know, you want to know the percentage of people who are affected versus unaffected, that's why you had a concern about this self-selection, correct?
A. That is partly correct, yes.
Q. Okay. The people who are not being tested in this case are the people who have no effect, correct, not feeling any -- not having any even alleged effect, correct?

Page 3736

A. We have no idea about that. They're just not people who didn't complain.
Q. Okay. And let's talk about people who complain. We heard -- you talk about the people who complain are complaining more after others complain. Is that pretty much what you said?
A. That's what we see in the literature that's been reported.
Q. Okay. I can't -- everybody who complains after the first one. So if a hundred people complain, the next 99 are all complaining after the first one, correct?
A. In the scenario you've designed, yes.
Q. Okay. So as soon as one person complains, everybody else is complaining after that first person.
A. That's correct.
Q. Okay.
A. May I respond to the rest of that?
Q. No, that's fine.
MR. BLAZER: Well, I think he should be allowed to, Mr. Chairman.
MR. LUETKEHANS: Well, you always think he should be allowed to, but so far they haven't been

Page 3737

allowed to, so why change now?
Q. You said you did not know what --
MR. BLAZER: Mr. Chairman, he wasn't done answering the question.
MR. LUETKEHANS: He didn't -- he was done answering my question.
CHAIRMAN CORNALE: He answered the question. Let's move on.
BY MR. LUETKEHANS:
Q. You said you didn't know what sensations meant in the study, correct?
A. I said that he had defined it one way and talked about health effects another, so it was confusing.
Q. It was confusing, but the sensations, what those were, was -- that was clearly defined, correct?
A. He defined that in his paper, that's correct.
Q. Okay. And he defined sensation to include headache, pressure in the head, ears or chest, ringing in the ears, heart racing or a sensation of heaviness, correct?
A. Where are you reading at now?

Page 3738

Q. Bottom of page 1 of the executive summary, about the fifth page in, maybe sixth.
A. Okay.
Q. He defines sensation to include headache, pressure in the head, ears or chest, ringing in the ears, heart racing or a sensation of heaviness, correct?
A. That is correct.
Q. So that's what he was measuring, correct?
A. That is correct.
Q. And he found that there was a correlation between certain operations at the wind farm and these, quote, sensations, correct?
A. Certain operations which were about whether or not the wind turbines were even turned on.
Q. I did not hear that, so I apologize. I don't mean to make you do it twice, but I couldn't hear you, Dr. Roberts.
A. There was not a correlation between wind turbine operation and those symptoms.
Q. There was not?
A. There was not.
Q. But there was correlation between certain

Page 3739

operations within the wind turbine and those symptoms, correct, he found?
A. I don't understand that.
Q. Okay. He found a position or a pattern of high severity of disturbance, this is page 2 of that executive summary, to be associated with four different operating scenarios of the wind farm being: one, when the turbines were seeking to start; two, an increase in power output of the farm on the order of 20 percent; a decrease in the power output of the farm on the order of 20 percent; and the situation when the turbines were operating at maximum power and the wind increased above 12 meters per second, correct?
A. That's what he said, but that doesn't say anything about noise.
Q. But it does say something about sensations which was the question not noise, correct?
A. But it --
Q. My question, Dr. Roberts, is did he find a correlation in his report between these sensations and certain operations of the wind farm? That's my only question.
A. That's what he reports in page ii.

Page 3740

Q. Okay. Page 75, do you have that report with you?
A. I do.
Q. Okay. This is the page you said that there was no correlation versus sensation -- of sensations, correct?
A. Correct.
Q. And that's from this, what's called the block, the top block, is that what you're saying, or testimony in --
A. I recall that top block, that's correct.
Q. Okay, it's in orange for lack of a better word.
A. Exactly.
Q. Okay.
A. Exactly. This first orange box on that page.
Q. Okay. And this is referring to the 31.5 plus side band frequencies, correct?
A. I can't testify to that.
Q. Okay, so you don't know. Okay. He does go on in Section 11.1 on page 214 to say in the first bullet point of Section 11.1, "The residents' observations and identification of sensation

Page 3741

separately to vibration and noise indicates that the major source of complaint from the operation of the turbines would appear to be related to sensation rather than noise or vibration." Do you see that?
A. I do.
Q. Okay. And then the next one talks about this 20 percent and start-up, et cetera, correct? We already discussed --
A. Tell me -- tell me where you are now.
Q. The next bullet point.
A. Starts out for residents, for some residents?
Q. Significant sensation.
A. Got it.
Q. And that's dealing with the same things we already talked about, and I don't want to have to make you go through it again if that's okay. So let's go to the third one. "For some residents experiencing adverse sensation effects, the impact can be exacerbated by bending over rather than standing, with the effect in some cases being reported as extremely severe and lasting for a few hours." Correct?
A. That's what the report says.

Page 3742

Q. And then he goes on to say, "With the wind farm not in operation, the residents indicated noise vibration and sensation are low in severity ratings." Correct?
A. That's what he says.
Q. Okay. And that's what he found, right?
A. Not -- when you look at the graphs, no.
Q. When I look at what?
A. When you look at the graphs individually, you see that sometimes people report increased severity when, in fact, the turbines are not even turning, they're not even -- there's no output.
Q. But he found a correlation, correct?
A. I don't know what his correlation is because this is not an epidemiological study nor did he do statistical --
Q. So because it's -- I'm sorry, I apologize.
A. He did not do a statistical analysis of this.
Q. Okay, so because it's not an epidemiological study, it's not something that you're testifying about. I mean you said you don't know what the correlation is because it's not an epidemiological study. We understand it's not an

Page 3743

epidemiological study. We already got there. So the question is, is this within your wheelhouse to even testify?
A. Absolutely.
Q. It is. Sensation, noise, those are within your wheelhouse.
A. This was presented as being part of the evidence associated with health effects of wind turbines, so I felt compelled to look at the whole thing and see if it had any information. Again, I said I don't look at who funded it, that sort of thing. I look at it for what it is and that's --
Q. Okay, in this case --
A. -- the way I got --
Q. I'm sorry, in this case who funded it?
A. I have no idea. Oh, this was by Pacific, Hydro Pacific.
Q. The actual wind turbine company --
A. Wind turbine company --
Q. -- funded this, correct?
A. -- correct.
Q. So Mr. Cooper was hired by the wind turbine company.
A. That is correct.

Page 3744

Q. And these are his findings, correct?
A. That is correct.
Q. When was the town hall meeting that Mr. Hartke attended that you talked about?
A. I don't remember the exact date. It was I believe he said last year. I don't remember the exact date.
Q. And you sat through Mr. Hartke's testimony, correct?
A. I did.
Q. And you also saw that he started -- he started complaining of these symptoms before that town hall meeting, correct?
MR. BLAZER: Objection, beyond the scope of the rebuttal.
MR. LUETKEHANS: What? He just talked about it. He talked about Hartke --
MR. BLAZER: He talked about the meeting. He didn't say anything about Mr. Hartke's complaints or his symptoms. He just talked about the --
MR. LUETKEHANS: Well, but then he went on to say that Mr. Hartke's complaints and symptoms were because some -- because of this town hall meeting.

Page 3745

MR. BLAZER: No, he never said that. He didn't say anything about Hartke other than the meeting occurred.
MR. LUETKEHANS: So the only purpose to talk about Hartke was that the meeting occurred? Then why is he even talking?
MR. BLAZER: Mr. Chairman, I have an objection pending. Beyond the scope.
CHAIRMAN CORNALE: All right, he has alluded to you were at the hearing and you heard Hartke speak, but you didn't -- you weren't -- you weren't at the specific meeting that he spoke. So to talk about contents of that meeting, again you're not privy to that information. You were at our meeting that he spoke but not at the particular meeting in -- I believe it was last summer.
A. That is correct.
CHAIRMAN CORNALE: Okay. All right, so where exactly is our objection? What --
MR. BLAZER: Well, he started asking him questions about when Mr. Hartke started complaining about symptoms. Dr. Roberts didn't say anything in his direct presentation about when Mr. Hartke started complaining about his symptoms, what his

Page 3746

symptoms were, or anything else.
MR. LUETKEHANS: Correct.
MR. BLAZER: The only question about Mr. Hartke was when -- are you aware that he -- that he made a presentation at a meeting last year period. I didn't ask him any other questions nor did he testify about anything else regarding Mr. Hartke.
MR. LUETKEHANS: So I would object to the relevance. I would object -- I would ask to strike the testimony of Mr. Hartke[sic]. If that's all he's testifying to, what's he testifying for?
CHAIRMAN CORNALE: All right. You missed the opportunity to object to that, so --
MR. LUETKEHANS: He then went on to talk about the fact that these people, which I assume was Mr. Hartke, were complaining because there was a town hall meeting.
MR. BLAZER: Well, a faulty assumption is not a basis for an objection.
CHAIRMAN CORNALE: Okay. So we're going to allow the objection and then we'll just move on.
BY MR. LUETKEHANS:
Q. Isn't it true that wind turbine hearings occur before wind turbines are actually put in

Page 3747

place, correct?
MR. BLAZER: Objection, beyond the scope.
MR. LUETKEHANS: No, it's not. He talked about the hearing -- he talked about hearings, he talked about that they brought out complaints, he talked about that that was the purpose of the complaints is because other people were complaining.
MR. BLAZER: Actually your objection to testimony in other hearings was sustained. That's why I can't get in any of the opinions regarding the experts that Punch relied on.
MR. LUETKEHANS: What?
MR. BLAZER: I didn't say anything about --
CHAIRMAN CORNALE: There was rebuttal evidence that had to do with meetings associated with wind farms, so any questions in this line should be allowed, will be allowed.
BY MR. LUETKEHANS:
Q. Okay. So isn't it true that you talked about hearings occurring and that the complaints increase after these hearings, correct?
MR. BLAZER: No, he didn't. Objection.
MR. LUETKEHANS: He can answer the

Page 3748

question --
MR. BLAZER: Objection.
MR. LUETKEHANS: -- about --
MR. BLAZER: He didn't say anything about hearings. He talked about meetings, Mr. Chairman.
MR. LUETKEHANS: You know what? If he wants to -- if he wants to object, he should object and he should quit coaching the witnesses.
CHAIRMAN CORNALE: Mr. Roberts, Dr. Roberts, can you answer his question?
A. I'm not sure. Basically I was confused somewhat in the fact that I was talking about the tribunals and I don't think I can talk about those now, and so the point being that I was testifying about peer-reviewed published literature, about what's in the literature about wind farms and the complaints occurring, increasing after public meetings and that sort of thing. I don't know exactly when the hearings were for those particular events. I don't know that that's in the --
Q. Okay, but, as you said, hearings. In Illinois at least, before a wind turbine farm can be put in, we require a hearing, so --
MR. BLAZER: Same objection, Mr. Chairman.

Page 3749

MR. LUETKEHANS: Can I ask the question please?
MR. BLAZER: Same objection, Mr. Chairman. I'll raise my voice as much as you do.
MR. LUETKEHANS: Can I ask my question --
MR. BLAZER: Except for me it's not for effect.
MR. LUETKEHANS: -- before the objection please?
MR. BLAZER: Beyond the scope.
MR. LUETKEHANS: Can I ask the question please?
CHAIRMAN CORNALE: Mr. Luetkehans, finish the question and then we'll sort through it.
BY MR. LUETKEHANS:
Q. Okay. In Illinois, wind turbine hearings, hearings like this one, occur before wind turbines are put in. Hence, under that scenario, those people have no ability to complain before the wind -- after -- I mean those hearings by definition require complaints before the wind turbines are put in, correct?
MR. BLAZER: Objection, beyond the scope.
CHAIRMAN CORNALE: Can you answer that

Page 3750

question?
A. Not really.
CHAIRMAN CORNALE: Okay. Mr. Luetkehans, can you clarify the question to get it --
BY MR. LUETKEHANS:
Q. Okay, it's impossible for someone to complain at a hearing that occurs before a wind turbine is put in about wind turbines that are already existing -- about wind turbine effects on themselves before the wind turbines are put in.
A. That's incorrect.
Q. Okay.
A. That happened in this proceeding where at least two people testified they went somewhere else and felt the sensations of wind turbines.
Q. And let's talk about those people. You said they testified with emotion, and I would agree with you. Is there any reason that you believe that they had that emotion before going out to the wind turbine and having what they felt is an effect?
A. I have --
Q. Do you have any reason to believe they had that emotion or that emotional response before they went to the wind turbines?

Page 3751

A. I can't judge that without talking to them.
Q. Okay. And, in fact, most of those people said they were open to the wind turbines, did they not, in their testimony before going out?
A. That's what they testified to.
Q. Okay, and you have no reason one way or another to say that they were wrong or they were lying to these --
A. I would not say that they were wrong or they were lying.
Q. Okay.
A. I think the testimony has different standards than talking to a physician in the privacy of an exam room.
Q. And again, you didn't examine any of these people to come up with your opinion.
A. No, sir, I did not.
Q. Okay. And these people never said they had wind turbine syndrome, did they?
A. One of them did, alluded to wind turbine syndrome. I don't --
Q. Okay, one person --
A. -- remember the --

Page 3752

Q. -- out of the five.
A. I didn't go back and look specifically for that. I just recall that a gentleman did say that.
Q. Did the Bells say that? The Bells.
A. I don't recall.
Q. How about Mrs. Kelson?
A. I'd have to look and see. I don't recall.
Q. She didn't say it, did she? Do you recall her saying --
A. I don't --
Q. -- that?
A. I said I remember a guy saying that, a father. I don't remember the others using that term.
Q. Okay. So one of the people who you talked about used that term, not the remainder, to your knowledge?
A. I did not specifically look for that, so I can't testify beyond what I've said.
Q. Okay. Let's talk about you said there are wind turbine placements where no complaints exist, correct?
A. That is correct.
Q. I think it was wind turbines places, I

Page 3753

don't mean to quote you wrong, wind turbine -- places where wind turbines are where there are no complaints, correct?
A. I think I probably said wind turbine farms.
Q. Okay. And some of those -- are you familiar with Judith Gap?
A. No.
Q. Invenergy's project in Judith Gap?
A. No, I'm not.
Q. Okay. Are you familiar with the fact that -- is that one of the places that you say no complaints have occurred?
A. No, I don't have the data to tell you specific areas. I'm just telling you from experience that I have not heard about wind turbine complaints in other areas.
Q. Okay. And you don't know as you sit here today how close those wind turbines are to the residences in those other areas, correct?
A. That is correct, I have not done a --
Q. And you don't know --
A. I have not done a study of that, that's correct.

Page 3754

Q. And you don't know the noise levels at those other places, correct?
A. That is correct.
Q. You don't know how many nonparticipants live within a mile of those other places, correct?
A. As I said, I have not done a study of that beyond what I've said.
Q. And, in fact, the main wind turbines, the original turbines, the ones that were -- the first ones that were put in the United States were put in the California desert, correct?
A. I'm not sure about the desert. I know about the Altamont Pass, but we've gone through a number -- as I understand it, I'm not a wind turbine engineer, but as I look at the literature, I see evolution in the types of wind turbines that have been done over time.
Q. And they've gotten closer and closer to large population areas, to higher population density.
A. They've gotten more efficient, more effective, and there are more of them.
Q. Okay.
CHAIRMAN CORNALE: Dr. Roberts, let me

Page 3755

just remind you, and Mr. Luetkehans, remind you both, stay on focus to the testimony he presented in rebuttal. So in no way, shape or form did we talk about Judith Gap or placement of homes or to homes. He didn't allude to any of that.
MR. LUETKEHANS: Mr. Chairman, I'm just trying to point out that his statement about wind turbines where nobody, no one -- where there's been no complaints, that we have no information as to where those are in relation to density, et cetera. And I think that's a fair statement to make or a fair question to ask and that's where we're going with these questions.
CHAIRMAN CORNALE: All right.
Q. You said -- and now I have to go a little further because you said they're getting more efficient. You're not familiar with the actual -- you're not an engineer, correct?
A. I said that originally, that's correct.
Q. Okay. So you don't know what the efficiency is and how it compares to density.
A. I use that term as a lay individual.
Q. Okay. One moment, Mr. Chairman.
MR. LUETKEHANS: Nothing further of this

Page 3756

witness, Mr. Chairman.
CHAIRMAN CORNALE: Thank you. All right, anyone in the audience with questions for Dr. Roberts? We've got a few here. All right.
A. I'm going to turn my back to you guys.
CHAIRMAN CORNALE: Yes, that's fine. All right, go ahead and please speak up since you don't have a microphone back there.
MR. CAVAZOS: Ambiro Cavazos, Strawn.
QUESTIONS BY
MR. CAVAZOS:
Q. I had a question. You said, you know, there's -- you need to have doctors diagnose whatever is going on with these wind turbines. Do you know of any doctor that can correctly diagnose or has diagnosed any wind -- with whatever you want to call it, problems with wind turbines?
A. I have to turn my back to you to answer the question because of the microphone. Let me clarify what I said, which is the fact that the symptoms that have been reported need to be evaluated by a physician with a clean slate. There is not a physician that is -- specializes in examining individuals for wind turbine syndrome.

Page 3757

Even Dr. Nina Pierpont who kind of coined the term did not examine the people that she identified as having the syndrome. So there's not a physician that does that.
What I'm saying is if you have those sort of symptoms you should go to the doctor, as Dr. Ellenbogen talked about when he testified, to make sure you don't have some underlying condition that can be treated.
Q. Okay. I guess also I got into that with -- hold on one second. I just drew a blank here. Are you saying that there's no way anyone can have negative effects from wind turbines whether it's physical or mental?
A. What I say is the fact that wind turbines are associated with noise; they're not associated with any particular disease.
Q. I guess I'm not asking about disease. Physical effects.
A. Well, you know, annoyance, I mean we all -- as I testified originally, we all respond to annoyance in different ways and specifically to sound. I used the example of how one sound might be a pleasure to one person and an annoyance to

Page 3758

another. So annoyance can cause you to be -- to have various symptoms. It's not specific.

Q. Okay, and I think I'm probably the one who mentioned wind turbine syndrome only because I didn't know what else to call it.

A. Your name again?

Q. Ambiro Cavazos.

A. Okay, could be.

Q. I mean just to tell you before, you know, I actually --

CHAIRMAN CORNALE: Remember, questions, questions, questions.

Q. I guess that was my question is I just wanted to know if you are denying any effects, any negative effects under oath?

A. Under oath I'm saying that the data shows that wind turbines have been associated with annoyance, but there is no peer-reviewed published literature that documents -- that confirms that wind turbines are associated with a particular disease.

Q. Why aren't there more studies being done by somebody like you?

A. Well, one of the things is the fact that research is being done. As I pointed out, there's

Page 3759

now research where they're actually taking the sounds from wind turbine farms and exposing individuals to them. A researcher named Crichton did it originally, and now there's been another study since then where they take it, put it in the lab so they don't see the wind turbines, they -- they re-create that sound, if you will, in that -- for that individual. And they've also then used videos and various bits of information to suggest adverse effects or not. And they're looking at it to see if that causes a -- if there's a difference in the reporting of symptoms after that.

Number one is they don't see an increase in symptoms in people exposed to the sound of wind turbines in those situations. And what they do see is an association with the nocebo effect, a negative message going into that test.

Q. Just one last question. Can those laboratories produce the same infrasound as wind turbines?

A. To my -- and I'll leave that to acousticians to answer for sure. They've taken recordings from wind farms and they've also done the measurements of pressure to simulate -- or it's not

Page 3760

actually simulated, it's bringing that noise into the laboratory.

Q. I take that as a yes.

A. That is a yes.

CHAIRMAN CORNALE: All right, I'm going to stop you right there. He has not testified to anything regarding infrasound and anything that you allude to him with infrasound --

MR. CAVAZOS: Well, he brought it up.

CHAIRMAN CORNALE: -- in rebuttal. So you can go ahead if you have another question.

MR. CAVAZOS: Well, I thank you, but he brought that up. That's the only reason I asked about it. Thank you.

CHAIRMAN CORNALE: All right. Any others in the audience with questions?

MR. SLAGEL: John Slagel.

QUESTIONS BY

MR. JOHN SLAGEL:

Q. You said -- I need a little background, so bear with me a little bit. Basically I asked Mr. Hankard one time about the California Ridge study. I asked him if the residents ever recorded complaints when the turbines were shut down

Page 3761

suggesting the nocebo effect. And his reply was: No, I was actually supplied whenever -- when we were doing our study, one of the residents complained about noise. I was always given that information and I compared it to the turbine operations and the noise levels that we were measuring at the time, and I found that they were -- they understood when the turbines were working. They did not complain when the turbines weren't working.

So then I answered -- asked him a question. I said: Okay, so there was no nocebo effect going on with those residents? To which Mr. Blazer objected and said: I have to object again. It's beyond the scope of this witness's testimony. We haven't established that this witness knows what the nocebo effect is. That was Mr. Robert's testimony.

CHAIRMAN CORNALE: All right, let me remind you that this is a rebuttal. Do you have a question that you're getting to?

MR. JOHN SLAGEL: Yes, I do.

CHAIRMAN CORNALE: We have the transcripts.

MR. JOHN SLAGEL: Okay, right.

Page 3762

BY MR. JOHN SLAGEL:
Q. Well, then I would ask what's the answer to that question, which is when the residents from California Ridge called in and complained that turbines were operating or they called in and complained of noise complaints while Mr. Hankard's instruments were measuring the sound and they didn't find it above IPCB levels. Was there a nocebo effect going on there?
A. In that situation, they're not measuring nocebo. Nocebo could be a factor in that, in the fact of they called in in the first place, but the thing is it's really more a correlation. When are the complaints, when do they occur, and when are the wind turbines functioning? So it's really more a correlation and not necessarily a nocebo.
MR. LUETKEHANS: John, let me interrupt. I think it will be easier for her if you stand somewhere where she can see you.
MR. JOHN SLAGEL: Oh, okay.
MR. LUETKEHANS: She's trying to read you and --
MR. JOHN SLAGEL: I'll come over here next to you.

Page 3763

BY MR. JOHN SLAGEL:
Q. Okay, so then in the California Ridge study, did -- would you say the noise complaints correlated with turbine operation?
A. The scenario that you've described I would say correlated. I have not looked at the data. I would have to look at the data to say that -- to make any determination about the whole project. The scenario that you've described, I would say there is a correlation, but I can only respond to what you've said.
Q. Okay. Did you read the entire Cooper Cape Bridgewater study?
A. I can't say that I read every bit of it because one of the things is about the sound part. I'm not an acoustician. And so I look at it, I under -- I try to understand it, I look at the graphs and try to understand those, and go more to the health and sensation issues, but I looked at every page and tried to read some on every page.
MR. John SLAGEL: Okay, thank you.
CHAIRMAN CORNALE: Anybody else in the audience with questions? Oh, Mr. Hayes, why don't you come on up.

Page 3764

MR. LUETKEHANS: How about he can use this mic.
CHAIRMAN CORNALE: All right, that'll be fine. All right, go ahead, Mr. Hayes.
QUESTIONS BY
MR. HAYES:
Q. John Hayes. Just a couple quick questions. You said there was no correlation between sensation and turbines?
A. Excuse me, please ask the question again. I got interrupted here. He like to fell over.
MR. LUETKEHANS: No, John, keep going.
Q. Oh, okay. You made a statement that there was no correlation between sensation and turbines in the Cape Bridgewater study; is that correct?
A. I'm saying that there is not solid evidence of correlation, that's correct.
Q. So are you saying there is some evidence of correlation?
A. As we -- as we pointed out, there's some things that are correlated with wind turbines, but, for example, the complaints did not always occur, the severity, he rated the severity up to five, and they didn't always associate with the wind turbines,

Page 3765

and he didn't do a statistical analysis of it.
Q. You know, in the -- I didn't bring it up here with me, but how do you account for, then, the diary entries showing the highest severity ratings of four to five when the turbines were either starting up, stopping or changing their power by 20 percent output? How did these people know that when they couldn't see or hear them?
A. I don't know that they couldn't see or hear them. Did you see that in the report for those --
Q. Yes --
A. -- particular sites?
Q. -- it's in the report.
A. Okay.
Q. Steven Cooper's report.
A. The second thing is that it's -- I'm not an engineer with wind turbines, so I can't answer what the sound levels are when they start up or when they're slowing down by 20 percent I think is the term that -- the fraction that he used. I can't answer that.
Q. Okay. Another statement you made was that no disease has ever been shown to be caused by wind

Page 3766

turbines, correct?
A. I said there's no recognized disease associated with wind turbines.
Q. Would you agree that noise from any source, including wind turbines, has the ability to disrupt sleep?
A. It all depends on the study and the type of noise that you're talking about, but it has been shown in some levels, that's correct.
Q. And would you agree that if a person's sleep is disrupted that this could be harmful to their health?
A. It's a possibility.
Q. So kind of in summary, even though turbines have never been shown to cause a disease doesn't mean that they are necessarily completely safe and harmless as far as a person's health goes.
A. Epidemiology and science cannot prove the negative ever, and so if there -- you know, if it is not causing a disease, it is not causing a condition, you can't prove it doesn't. One question was asked earlier about further research. Research will continue until science decides there's not an association, there's not a disease, and that's the

Page 3767

way it is. I mean that's the way it's been with every disease that we have now.
And the thing is there are many diseases that are brought up that are published about early on, observations maybe like Cooper has made, and science has gone in and looked at it and said there's not an association, there's not a disease there. So it's not a recognized disease.
Q. Have you ever interviewed anyone who did not, in your opinion, have a nocebo effect who indicated that turbines cause sensations or other effects on them?
A. No. Basically the people I talked to were not interviews, they were people like in the audience, and I just listened. I didn't make a value judgment.
Q. Would it surprise you if you did find someone like that?
A. Find somebody like what?
Q. Someone who really doesn't have an opinion towards turbines who just suddenly after they came in contact with them in some way reports something negative about them? Would that surprise you?
A. You know, one of the things is the fact

Page 3768

that you have to sit down and talk with the individual and find out what they really think about wind turbines, and so one individual doesn't make a disease.
Q. But wouldn't one person be important?
A. Every person is important.
MR. HAYES: Thank you.
CHAIRMAN CORNALE: Anybody else in the audience with questions for Dr. Roberts? We've got one over here. Why don't you come on up so we can hear you. Are you afraid? Yeah, okay, do your best.
QUESTIONS BY
MS. KELSON:
Q. Paula Kelson. You said you heard my testimony. Since you are a doctor, can you explain what it was that caused the pressure in my neck when I visited the turbines?
A. No, I can't. I think that it depends on the type of pain you had. I think your son had --
MR. BLAZER: Doc, she can't hear you.
A. Oh, okay. And I think that your son had told you that he had a similar feeling. I don't know what it is. It could be muscle, it could be

Page 3769

tension, you can get tension headaches and --
Q. I don't.
A. Well, I'm saying some people do. And so that's not specific for any particular exposure that I'm aware of.
Q. Would it be because I either feel for or against turbines? Is that what would be the root of it?
A. No, I think -- I'm not saying that your head makes your neck hurt, okay, your brain. What I'm saying is the tension associated with the strain of being concerned may actually cause tension.
Q. So you're saying I felt the nocebo effect?
A. No. I'm saying you felt a feeling in your neck. One of the things is there's really confusion about nocebo effect. Nocebo effect is a person, if you think it's a negative outcome, you're more likely to not agree. I'm giving you an aspirin for a headache. If you think that aspirin is going to help your headache, it has a better chance of you feeling better.
Q. So --
A. If you don't feel, you say, oh, he just gave me an aspirin, I always take Excedrin, that's a

Page 3770

negative, that's a nocebo, and so you're less likely to feel improvement with that aspirin because you really thought I ought to use something more powerful. So that's the nocebo effect.

Q. I believe in my testimony I said I was not expecting to feel anything at all, but when I went there, I felt very obvious pressure in my neck and in my ears. I -- from that point on, I became concerned about it. Would you be surprised -- or if it's based on the tension from the windmills, I don't believe I had much tension at that point from the windmills. But the other person that was with me that agreed there was a real physical effect is pro-wind. What would be causing that for him?

A. Well, number one is why did you go there?

Q. I wanted to see what they looked like visually. I did not -- I did say that I had felt a minor possible ringing when I left another turbine from another place. I did not know if that was repeatable. It was not. When I went up there, I did not feel that again.

A. Okay, had you --

Q. I felt something totally different.

A. Excuse me. Had you looked on the Internet

Page 3771

about symptoms about wind turbines? Had you researched about wind turbines?

Q. I'm trying to remember. I don't believe I did. And I did not listen to Ted Hartke's talk. I only mention that because that would have been the only thing that I would have heard about. I heard about him, but I did not hear what specifically he was feeling.

A. Right, so you went in with some sort of idea, and so I can't dissect what you individually, what -- why that happened, but this is the sort of interaction that I'd have with an individual who, if we're sitting without all these other people watching, is to talk to you about that, what did you have, had you looked at information, had -- you know, that sort of thing. It's all --

Q. I can say --

A. -- part of it.

Q. -- that I don't believe that I had any information at that point. And my son, my six-year-old son had not looked at any.

A. Certainly had not. I would hope not.

Q. And we had not talked about it in front of him to my knowledge. How we presented it when we

Page 3772

went up there to visit them was that it's a nice day outside, let's go play freeze tag in the fields and the ditches and let's go look at these things. Look at them. Even though I don't feel this way: Wow, this is incredible. That's the way we presented it to our kids so that I could get a true test. And it did not affect them all, but it obviously affected one.

A. But one of the things that I was --

CHAIRMAN CORNALE: Let me stop here. Let me just remind everybody that this is the rebuttal portion of this. Ms. Kelson, do you have a specific question based on his rebuttal testimony that maybe we can get to?

Q. My main question was if a pro-wind person could experience a tension headache caused by a nocebo or placebo or whatever effect you want to call it by being tense around them, if that could cause pressure in the ears?

A. We are all human beings and you went there for a reason. It was just in the mind about what am I feeling. And so I can't say it wouldn't happen. You don't make a determination about causation for a whole group of people based on one observation.

Page 3773

Q. So this other person is the key. If this other person who was pro-wind was not expecting to feel anything and yet he did, where did that come from?

A. I have no idea.

Q. I don't either. Or, no, I do.

A. Okay.

MS. KELSON: Okay, I think -- I think you've answered my question.

CHAIRMAN CORNALE: Thank you. Anybody else in the audience with questions? Oh, we've got one.

MR. KNAUER: I just have one question. Steve Knauer.

QUESTIONS BY

MR. KNAUER:

Q. There's been a lot made of the nocebo effect. Would it not be fair to say that the opposite, the placebo effect, also holds true for people that do not make complaints? They're receiving financial gain or something like that that makes them accept these things.

A. It's very possible because, as I said, if there's negative feelings about it, it goes one way.

Page 3774

If there's positive feelings, whatever the root of those positive feelings are, that's a possibility.

Q. But there's no way of measuring that, correct?

A. Well, I mean I think the papers that are beginning to come out now, Crichton, Knopper, and Maffulli out of Italy, are beginning to gather information about the psychiatric aspects of health complaints period. But I would agree with you that nocebo effect and placebo effect go in opposite directions and have different factors.

MR. KNAUER: Okay.

CHAIRMAN CORNALE: Anybody else in the audience with questions?

QUESTION BY

MR. DAVID SLAGEL:

Q. David Slagel, Fairbury. So if I hate cancer and then I end up getting cancer, does that make it any less of a disease?

A. Absolutely not.

MR. DAVID SLAGEL: Thank you.

CHAIRMAN CORNALE: All right, any other questions?

A. There's one over here.

Page 3775

CHAIRMAN CORNALE: I've got one here.

MR. MAUBACH: Ed Maubach.

CHAIRMAN CORNALE: No, come on up. I need to be able to hear you. Mr. Maubach, what was your first name again?

MR. MAUBACH: Ed.

CHAIRMAN CORNALE: Ed. Mr. Luetkehans represents you.

MR. MAUBACH: So I'm not a human being anymore?

CHAIRMAN CORNALE: Anybody else in the audience? Not represented by Mr. Luetkehans, let me be clear. Anybody else?

All right. ZBA, do we have any other questions of Dr. Roberts at this point in time? We're good. County staff? County counsel? County staff, county counsel? All right. Dr. Roberts, thank you.

All right, it's 20 after 9:00.

MR. BLAZER: He won't be done in ten minutes.

CHAIRMAN CORNALE: I'm sure of that.

MR. BLAZER: I can barely get his name out in ten minutes.

Page 3776

CHAIRMAN CORNALE: Should we talk for 20 minutes and then -- or should we just go ahead and end tonight and start fresh --

MR. BLAZER: It's up to you.

CHAIRMAN CORNALE: -- on Wednesday?

MR. BLAZER: Right now we have for Wednesday also Mr. MaRous, and given the length of his reports, I have a feeling the cross-exam, despite Mr. Luetkehans's prior relationship with Mr. MaRous, will be rather lengthy.

MR. LUETKEHANS: Well, let's try and take a few more shots while we're just saying something that makes no sense please.

CHAIRMAN CORNALE: All right.

MR. BLAZER: In any event, and then I have --

MR. LUETKEHANS: He's got 70 pages, let's talk about that.

MR. BLAZER: I'm concluding with Mr. Parzyck, so --

CHAIRMAN CORNALE: All right. Why don't you -- why don't you start, give us a little bit, get to some kind of natural break in your presentation, and we'll settle. That'll be our best

Page 3777

use of time.

MR. BLAZER: You're assuming I have a natural break.

CHAIRMAN CORNALE: Yeah. If not, you'll make one.

MR. BLAZER: I'll do my best.

CHAIRMAN CORNALE: Because we will have to discuss the motion as well on Wednesday. For those of you here, our next meeting is Wednesday, the 29th, 6:30, and it's here. And for those that might have missed earlier, there's a meeting on May the 7th, it's at seven o'clock and it's here, because we've got another meeting to take care of at 6:30. All right.

MR. BLAZER: All right, thank you.

(Mr. Michael Hankard called as rebuttal witness.)

QUESTIONS BY

MR. BLAZER:

Q. Very quickly first, Mr. Hankard, you were asked some questions earlier about Exhibit 16B and to some extent 16A and the relationship between those and specifically whether or not, and I think this was from Mr. Cornale, when you show with the

Page 3778

latter parts of 16B, the analysis with the additional LNTE turbines, whether or not you show 41 dB at a particular receptor, that's the maximum that could ever -- that's the maximum noise level at 1000 hertz that could ever be received at that residence. Is that, in fact, the maximum that could ever be received?

A. Based on our modelling and our --

MR. LUETKEHANS: Objection. What is this rebutting? His own testimony?

MR. BLAZER: It's clarifying.

MR. LUETKEHANS: No, it's --

MR. BLAZER: The rule is to clarify, explain --

MR. LUETKEHANS: His own testimony?

MR. BLAZER: -- rebut, modify. This was in response to questions from the ZBA.

MR. LUETKEHANS: So? It's his testimony.

CHAIRMAN CORNALE: Regardless of what the rules say, I do want to hear the answer to this. This was my question. If we're changing our testimony, let's hear it.

MR. BLAZER: I don't believe he is changing, but I --

Page 3779

MR. LUETKEHANS: Do you want to testify or do you want to ask questions?

MR. BLAZER: Fortunately you don't make the rules.

BY MR. BLAZER:

Q. Go ahead, Mr. Hankard, answer the question.

A. Could you repeat the question or at least the last part of it?

Q. Sure, sure. At any particular receptor in the last couple of pages of 16B, you show 41 dB at a few receptors. In the real world when this project -- assuming this project begins operating, are you saying that's the maximum that can happen?

A. It's -- you know, again, we -- I expect it to be actually about 2 dB louder than what we measured.

Q. What's 2 dB louder?

A. At 1000 hertz, the -- given the fact that we predict 41 but I think the model is overpredicting by 2, then the maximum I ever expect to actually occur is 39.

Q. And could you explain how you get that 2 dB -- first of all, how do we get to 41 if that's

Page 3780

not, in fact, the real world?

A. Well, I mean --

MR. LUETKEHANS: Objection, beyond the scope. This is not rebuttal anymore. I don't know what this is.

CHAIRMAN CORNALE: Mr. Hankard, just go ahead and continue with this. This is important to the hearing process.

MR. LUETKEHANS: You know what, I agree it's important, but it's also their burden and they should have raised it in the first hearing, in the first set of opportunities instead of in rebuttal.

MR. BLAZER: This is in response to questions that were raised this evening.

CHAIRMAN CORNALE: These questions were -- due to the process, these questions were raised in questions, so these are fair questions to ask and answer at this point. Plus they are our questions, so --

MR. BLAZER: Yes.

A. Well, I believe your question was how did we get to 41?

Q. How do you explain the 2 dB difference between what your model shows and what you're saying

Page 3781

will be the real world level between 41 and 39?

A. We get to the 41 vis-a-vis the conservative nature of the predictions and comparison of those, of that method that we used, in comparison to what we measure at Cal Ridge shows that the model is overpredicting by 2. So the difference is a model that is based on assumptions, we made very conservative assumptions, and 39 is reality.

Q. All right.

A. Hopefully that answers the question.

Q. It does answer my question. Let's go to the Cape Bridgewater study. I'll leave the full copy up there because we're not going to get to cross-exam today, but I'll leave it up here anyway.

Did you review Jerry Punch's testimony regarding the Cape Bridgewater study?

A. Yes, I have.

Q. Have you reviewed the study?

A. I have reviewed the study in depth, yes.

Q. Okay. And I'll ask you the same question I asked Dr. Roberts. Mr. Punch stated that the study provides definitive proof that wind turbines absolutely cause symptoms in some of the wind farm

Page 3782

residents. Do you agree with that statement?
A. Well, I'll keep my answers based on acoustics and levels, and based on the levels that were measured and reported in this study, they do not surpass even the levels of hearing in any way, shape or form. And so I guess if you can't hear it, then it would be hard for me to understand how it could have an effect.
Q. Okay, could you explain the basis for your disagreement with Mr. Punch's opinion?
A. I guess Mr. Punch apparently just takes the --
MR. LUETKEHANS: Objection as to what Mr. Punch apparently does.
CHAIRMAN CORNALE: All right, Mr. Hankard, can you just answer the question without adding what you feel Dr. Punch does or does not do?
A. Yes, if you'd give me just a moment here. Well, Mr. Punch, I have some of his testimony here, and he says the most important fact determined by the study is there's now definitive proof that wind turbines absolutely do produce or cause physical symptoms in some wind farm residents. By the author's own admission, there was never a -- it was

Page 3783

never their intent to investigate health effects, so I don't know how Jerry Punch makes that statement.
MR. LUETKEHANS: Objection, he's not a doctor. Now he's talking about medical testimony. No foundation, no basis.
Q. Does the paper --
MR. LUETKEHANS: Can I have a ruling on the objection please?
CHAIRMAN CORNALE: All right. We can't allow you to report medical definitions, but at the same time we will let the record indicate that Punch is not an M.D. either. He has a Ph.D. in another field not medicine.
BY MR. BLAZER:
Q. Let's talk about your opinion in this study regarding a correlation between the wind turbines and sensations. Is it -- is it your opinion that this study, in fact, establishes a correlation between anything regarding wind turbines and, quote, unquote, sensations?
A. It -- it is not my -- it is my opinion that this report has shown no correlation. Let's start with the noise levels. They come right out and say that they could not correlate the diaries

Page 3784

with noise. They tried dB(A), dB(C), dB(A) minus dB(C), third octave. They tried to match up the diaries with all the noise levels and they say as much there. It did not correlate. The same with vibration.
So then what they did was they said let's take a look at all of the times when the people reported a five out of five sensation, which they define as a severe, well, sensation, severe sensation as they define that as headaches, dizziness, et cetera. So when these people reported a five and they were experiencing sensations, this report says that that correlated to those four different turbine operations that Mr. Luetkehans mentioned: either seeking to start up, changing up or down 20 percent, or being above I think it was 12 meters per second.
But I don't know how they use the word correlation because I went through the graphs and there are many times, and I've got a list of specifics, that the turbines were completely off and these people were reporting a five. I -- I fail to see how that's correlation.
Q. Any other aspects of this report that you

Page 3785

-- that in your opinion impact on the conclusion that there was any kind of correlation?
A. Well, again, back to noise levels, it was interesting that they had a note in here, and it was supported by the charts, that one of the problems they had with measuring noise inside the homes was that the levels were so low that their instruments were bottoming out. A noise meter has what's called a noise floor, it will only go so low due to the electronics inside, and that noise floor is usually around 18, 20 dB or dB(A), which is extremely quiet. I mean we would all be thrilled with that kind of environment to sleep in generally speaking. And so they were -- that was a problem is that the levels were so low.
Q. Could you give us some examples of specific locations where there was an absence of correlation between wind turbine operations and these so-called sensations?
A. Yeah, I did make some -- I just looked through the graphs in the appendix. I have, for example, in -- at house 88 -- there were three homes. They labeled them 87, 88, 89. At house 88, and this is reported in Appendix K in the document,

for example, on May 5th, 2014, at 2:00 p.m. they reported a five and the turbines were operating at less than 10 percent capacity, which in my experience they're barely moving. There was May 10th at 6:00 a.m. through May 11th at 10:00 p.m., in all of those cases they reported a five and in all of those cases the turbine operations were less than 10 percent.

Q. How about at house 87?

A. Yeah, and so, you know, one of the residents had been reported as being hypersensitive I guess you could say, but -- so I looked at 87 because that was not that resident, this is theoretically not the supersensitive person, and at noon on May 8th they reported a five, and in this case the plant, the chart as far -- it was basically off, the plant was putting out no power at that time.

And on May 6th, they reported a four, so now it's a four out of five on severity, but if you read the definition of four, that's -- I forget the exact definition, but it was impactful, it was loud and they could hear it and it was impactful. The plant at that time was outputting 2 kilowatts, which

out of a 58 megawatt total capacity is like .003 percent, I mean essentially off.

MR. BLAZER: This might be a good time to break, Mr. Chairman. I think I just found a natural break.

CHAIRMAN CORNALE: All right, I knew you would come through for me on that. All right. So just a reminder, we'll meet again on Wednesday, the 29th, 6:30, here. We meet May the 7th. The meeting will be at 7:00 and it will be here. Wednesday night we'll talk about the Maier, we're going to make a final ruling on the motion for the Maier, and we hope to make a ruling on the UCLC motion that has been filed as well. Anything else?

MR. BLAKEMAN: On the county website there will be a list set forth for those individuals who are entitled to make closing arguments. I provided it to the attorneys already, but everybody please scrutinize and make sure we haven't left anybody out. Or if somebody thinks there's somebody on there that shouldn't be, let me know.

CHAIRMAN CORNALE: I think we did a good job, too, tonight with our rebuttal working through that process. I think everybody understands it now,

we've got a good feeling for how that works, so we'll keep up with that.

With that, I need a motion for recess.

MR. VITZTHUM: I'll make that motion.

CHAIRMAN CORNALE: All right, Vitzthum motions.

MS. HUISMAN: I'll second.

CHAIRMAN CORNALE: All right, Huisman seconds. All in favor?

ALL MEMBERS: Aye.

CHAIRMAN CORNALE: Opposed? Thank you.

(Adjourned at 9:36 p.m.)

STATE OF ILLINOIS)
) SS
COUNTY OF FORD)

I, June Haeme, a Notary Public in and for the County of Ford, State of Illinois, do hereby certify that the following Livingston County Zoning Board of Appeals Case SU-7-14 hearing was taken at the Livingston County Historic Courthouse, 112 West Madison Street, Pontiac, Illinois, on April 27, 2015.

That the said testimony was taken down in stenograph notes and afterwards reduced to typewriting under my instruction and that the transcript is a true record of the testimony given.

I do further certify that I am a disinterested person in this cause of action; that I am not a relative, or otherwise interested in the event of this action, and am not in the employ of the attorneys for either party.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 12th day of May, 2015.

JUNE HAEME, CSR
NOTARY PUBLIC

"OFFICIAL SEAL"
June Haeme
Notary Public, State of Illinois
My Commission Expires:
September 27, 2016

A

ability (3)
3708:15;3749:19;
3766:5
able (4)
3688:15;3705:17;
3728:2;3775:4
above (6)
3669:1;3683:14;
3684:17;3739:13;
3762:8;3784:16
absence (2)
3667:17;3785:17
absolute (2)
3666:5;3673:1
absolutely (11)
3657:13;3675:1;
3691:12;3696:7;
3710:13,15;3732:2;
3743:4;3774:20;
3781:24;3782:22
accept (4)
3654:11;3708:11,21;
3773:22
acceptable (2)
3679:3;3715:13
accepted (5)
3675:18;3691:5;
3717:9,17;3731:10
account (1)
3765:3
acknowledged (5)
3656:4;3660:14;
3663:22;3727:5,15
acoustic (5)
3656:10;3665:4,17;
3667:24;3710:3
acoustical (2)
3662:19;3671:11
acoustician (8)
3662:21;3663:10,22;
3668:1;3669:23;
3675:2;3699:10;
3763:16
acousticians (1)
3759:22
acoustics (5)
3656:6;3660:14;
3674:19;3675:7;
3782:3
across (1)
3701:12
actual (2)
3743:18;3755:17
Actually (34)
3655:17;3657:8;
3658:17;3661:16;
3663:6;3666:20;
3671:15;3672:3,18;
3678:16;3679:17;
3685:15;3693:4;
3696:8;3711:11;
3713:23;3715:8;
3719:12;3720:24;
3721:19;3722:1,1;
3723:18;3724:24;
3728:14;3746:24;
3747:8;3758:10;
3759:1;3760:1;3761:2;
3769:12;3779:16,22
add (1)
3693:19
added (4)
3686:2;3692:24;
3693:16;3697:5
adding (1)
3782:16
addition (1)
3698:11
additional (7)
3669:15;3679:11,14;
3686:2;3687:22;
3690:20;3778:2
address (1)
3681:20
adequately (1)
3697:20
A-Design (2)
3654:1,12
Adjourned (1)
3788:12
administrative (2)
3652:23;3654:23
admissibility (2)
3660:1;3705:4
admission (3)
3654:4;3662:20;
3782:24
admitted (4)
3653:6;3654:1;
3668:21;3669:6
advent (1)
3718:24
adverse (6)
3713:18;3714:14;
3716:14;3722:10;
3741:19;3759:10
adversely (1)
3721:9
advice (1)
3708:10
advise (1)
3659:14
advised (2)
3678:17;3728:22
advisement (1)
3679:2
affect (3)
3721:9;3723:4;
3772:7
affected (2)
3735:17;3772:7
affects (1)
3722:11
afraid (2)
3700:12;3768:11
afternoon (1)
3696:16
afterwards (1)
3695:9
again (38)
3660:14;3662:4;
3663:8,15;3667:23;
3668:16,20;3669:2,5,
10,12,20;3670:23;
3671:1,3;3674:18;
3678:8;3684:16,19;
3686:22;3696:21;
3704:5;3705:2;3713:1,
16,20;3741:17;
3743:10;3745:13;
3751:16;3758:6;
3761:13;3764:10;
3770:21;3775:5;
3779:15;3785:3;
3787:8
against (3)
3719:21;3729:22;
3769:7
ago (3)
3718:23;3723:23,24
agree (16)
3674:22;3678:10;
3710:7,9,14,15;
3718:22;3728:1;
3735:1;3750:17;
3766:4,10;3769:18;
3774:9;3780:9;3782:1
agreed (2)
3695:9;3770:13
agreement (1)
3654:2
agrees (1)
3681:2
ahead (12)
3655:1,15,16;
3701:24;3707:13;
3708:24;3756:7;
3760:11;3764:4;
3776:2;3779:6;3780:7
aid (1)
3706:21
ain't (1)
3699:15
air (1)
3693:9
algorithms (1)
3695:4
alleged (1)
3735:24
allow (10)
3655:4;3674:7;
3675:24;3676:5;
3680:10;3708:9;
3718:9;3728:23;
3746:21;3783:10
allowed (15)
3666:2;3672:16;
3677:6,6,21;3703:7;
3717:22;3718:1,5;
3727:4;3736:22,24;
3737:1;3747:18,18
allows (2)
3693:9,10
allude (3)
3677:22;3755:5;
3760:8
alluded (6)
3677:12;3681:9;
3694:6;3718:1;
3745:10;3751:21
almost (1)
3698:22
alone (1)
3717:23
along (3)
3679:5;3706:22;
3708:8
Altamont (1)
3754:13
always (6)
3723:6;3736:23;
3761:4;3764:22,24;
3769:24
Ambiro (2)
3756:9;3758:7
Ambrose (12)
3666:10,14;3667:3;
3671:19,22;3672:2;
3673:5,7,17,22;3675:8,
13
Ambrose's (1)
3665:22
among (2)
3711:20;3716:17
amount (1)
3693:11
analysis (7)
3663:1;3665:15;
3668:7;3671:24;
3742:18;3765:1;
3778:1
Annals (2)
3726:3,6
annoyance (8)
3733:13,14,14;
3757:20,22,24;3758:1,
18
annoyed (1)
3733:15
answered (5)
3689:17;3701:21;
3737:7;3761:10;
3773:9
anti-wind (1)
3722:3
anxiety (1)
3733:12
anymore (2)
3775:10;3780:4
apologize (5)
3709:13;3711:2;
3717:13;3738:17;
3742:17
apparently (2)
3782:11,14
Appeals (1)
3652:6
appear (1)
3741:3
appeared (1)
3722:15
appears (1)
3672:19
appendix (2)
3785:21,24
applicability (1)
3669:11
applicant (18)
3657:17;3659:4;
3662:17;3664:12;
3668:19;3670:10;
3672:19;3702:16,24;
3703:4,8,12,17,24;
3704:7,15,22;3706:5
applicant's (1)
3704:9
application (3)
3668:16;3703:22;
3704:11
apply (1)
3697:17
applying (1)
3690:3
appreciate (2)
3671:16;3732:2
appropriate (2)
3657:2;3705:20
appropriateness (1)
3669:17
approximately (2)
3655:7;3683:22
April (2)
3652:4;3705:23
area (1)
3659:5
areas (4)
3753:15,17,20;
3754:19
argue (2)
3699:14,15
argument (3)
3657:16;3659:16;
3672:8
arguments (2)
3703:11;3787:17
around (5)
3698:20;3723:21;
3724:6;3772:18;
3785:11
article (12)
3673:24;3674:14,18,
24;3720:4,9,19,20,23;

3726:4,5,7
aspects (2)
3774:8;3784:24
aspirin (4)
3769:18,19,24;
3770:2
assert (1)
3694:17
Assessment (2)
3654:1,13
associate (1)
3764:24
associated (11)
3725:8;3732:8;
3739:6;3743:8;
3747:16;3757:16,16;
3758:17,20;3766:3;
3769:11
association (4)
3711:12;3759:16;
3766:24;3767:7
assume (6)
3684:19,21;3686:14,
16;3688:4;3746:15
assumes (2)
3692:13,17
assuming (2)
3777:2;3779:13
assumption (1)
3746:18
assumptions (2)
3781:7,8
assurance (1)
3694:24
atmosphere (3)
3698:11;3699:3;
3700:7
atmospheric (2)
3696:23;3699:19
attacked (1)
3704:17
attempting (1)
3662:13
attempts (1)
3703:5
attended (2)
3719:6;3744:4
attention (1)
3722:2
attorney (9)
3656:6;3703:15,15;
3704:4,5,22,23,24;
3705:2
attorneys (5)
3659:13;3704:24;
3705:9,21;3787:18
audience (15)
3681:18;3682:5;
3687:7,10;3689:19;
3702:21;3709:14;
3756:3;3760:16;
3763:23;3767:15;
3768:9;3773:11;
3774:14;3775:12
Australia (2)
3709:22;3719:16
authenticated (1)
3654:2
author (2)
3711:10;3721:2
authorized (1)
3705:23
author's (1)
3782:24
automatically (1)
3731:6
available (8)
3653:4;3708:16;
3726:24;3727:8;
3728:2,7,10,20
averaged (1)
3696:20
aware (12)
3709:19;3714:13,17,
18;3716:7;3718:17;
3722:19,20;3724:16;
3733:8;3746:4;3769:5
away (14)
3698:6,8,9,11,14;
3699:8,17,17,18;
3700:6,8,14,16,17
Aye (1)
3788:10

B

back (18)
3663:6;3665:11;
3677:7;3678:7;
3680:24;3684:10,10;
3689:20;3693:8;
3702:19;3723:23;
3725:3;3731:16;
3752:2;3756:5,8,18;
3785:3
backdoor (1)
3673:14
background (2)
3730:2;3760:20
bad (1)
3721:17
band (5)
3691:8;3697:10,18;
3698:5;3740:19
barely (2)
3775:23;3786:4
based (14)
3669:4;3672:17;
3688:12;3694:9;
3699:10;3714:13;
3718:18;3770:10;
3772:13,24;3778:8;
3781:7;3782:2,3
basically (6)
3664:2;3719:17;
3748:11;3760:21;
3767:13;3786:16
basis (8)
3675:17;3710:16;
3715:9;3716:24;
3723:11;3746:19;
3782:9;3783:5
Baywatch (2)
3721:14,17
Baywater (1)
3721:16
bear (1)
3760:21
became (1)
3770:8
becomes (1)
3668:24
began (2)
3720:2;3726:2
begin (1)
3709:1
beginning (2)
3774:6,7
begins (2)
3723:3;3779:13
behalf (1)
3703:16
beings (1)
3772:20
belief (1)
3659:11
believes (1)
3673:2
Bells (2)
3752:4,4
below (2)
3658:13,14
bending (1)
3741:20
best (6)
3709:14;3712:11;
3727:14;3768:12;
3776:24;3777:6
better (8)
3655:9,9;3702:21;
3711:8;3721:7;
3740:12;3769:20,21
beyond (9)
3744:14;3745:8;
3747:2;3749:10,23;
3752:19;3754:7;
3761:14;3780:3
bias (4)
3713:23;3714:10;
3729:9;3730:9
biased (1)
3713:20
bit (5)
3689:15;3702:4;
3760:21;3763:14;
3776:22
bits (1)
3759:9
blade (8)
3681:22;3692:24;
3693:2,3,8,18,19,20
blades (14)
3669:19,22;3670:4;
3680:19;3681:24;
3685:14,15;3686:19;
3690:4;3692:20,23;
3693:17,21,24
Blakeman (8)
3677:12;3678:2;
3702:12,14,20,22;
3706:4;3787:15
Blank (4)
3694:11,22;3695:6;
3757:11
BLAZER (125)
3654:7;3655:2,16,
17;3658:7,18,20,23;
3659:20;3660:5;
3661:16,22;3662:14;
3663:18;3665:3,9,12;
3666:8,20,23;3667:9,
14,16;3668:10,13;
3669:7;3670:21;
3671:1,14,17;3672:10,
18;3673:4,13,16;
3674:2,11,17;3676:6,8,
12,16,18;3677:24;
3679:8,16,22;3680:3,
11,13,17,22;3681:6,9;
3682:6,15,18,22;
3690:19;3709:1,2,11,
15,18;3711:19;
3712:12;3716:12,21;
3717:4,6,12,15;3718:6,
7,12;3726:23;3727:3,
9;3728:4,6,13,16;
3729:1;3736:21;
3737:3;3744:14,18;
3745:1,7,20;3746:3,18;
3747:2,8,13,23;3748:2,
4,24;3749:3,6,10,23;
3761:13;3768:21;
3775:20,23;3776:4,6,
15,19;3777:2,6,15,19;
3778:11,13,16,23;
3779:3,5;3780:13,20;
3783:14;3787:3
Blazer's (1)
3675:13
block (3)
3740:9,9,11
blood (1)
3732:12
blowing (1)
3699:8
Board (18)
3652:6;3655:12;
3656:13;3659:13,14;
3662:12;3666:23;
3670:14,19,20;
3671:16;3675:5;
3678:23;3679:1;
3685:9,24;3707:11,11
board's (1)
3728:8
both (8)
3656:4;3676:24;
3677:3,17;3702:6;
3713:10;3720:2;
3755:2
bother (5)
3700:22,23,24;
3701:6;3731:17
bothers (2)
3701:2,4
Bottom (1)
3738:1
bottoming (1)
3785:8
box (1)
3740:16
brain (3)
3730:24,24;3769:10
bread (1)
3693:7
break (5)
3702:4;3776:23;
3777:3;3787:4,5
breakneck (1)
3671:6
Bridgewater (13)
3709:21;3712:3;
3721:15,16,20,21;
3729:10,12;3735:2;
3763:13;3764:15;
3781:13,17
briefly (1)
3658:7
bring (4)
3678:7;3714:19;
3726:22;3765:2
bringing (1)
3760:1
brings (2)
3686:3;3722:2
brought (6)
3666:1;3731:9;
3747:5;3760:9,13;
3767:4
buffer (2)
3697:5,21
build (1)
3696:10
builds (1)
3720:7
built (2)
3697:10,11
bullet (3)
3662:17;3740:23;
3741:10
burden (8)
3656:20;3657:14,16,
17,19;3670:15;
3672:15;3780:10
business (2)

3659:3,6
Buxton (2)
3725:9;3726:5

C

Cal (1)
3781:5
calculate (1)
3689:10
calculated (1)
3687:15
calculations (1)
3695:2
California (10)
3665:15;3671:23;3675:14,15;3697:7;3715:11;3754:11;3760:22;3762:4;3763:2
call (10)
3652:2,8;3682:11;3705:22;3709:3;3713:22;3728:8;3756:17;3758:5;3772:18
called (11)
3709:4;3715:12;3719:17;3726:17;3730:9;3740:8;3762:4,5,12;3777:16;3785:8
came (2)
3714:24;3767:21
can (84)
3653:12,16;3655:2,3,6;3657:1,9;3658:19;3661:14,14;3662:7;3664:22;3668:10;3670:16;3674:1;3676:4,21;3677:12,19;3678:12,12;3679:6,19,23,24;3680:11;3683:1;3686:16;3688:11,18;3691:1;3692:7,19;3693:15,17;3695:20,23;3699:7,20;3701:24;3702:2,5;3705:9;3709:1;3710:24;3712:11;3716:5,12;3717:4,6;3718:6,7;3721:9;3723:4;3727:6,22;3741:20;3747:24;3748:10,13,22;3749:1,5,11,24;3750:4;3756:15;3757:9,12;3758:1;3759:18;3760:11;3762:19;3763:10;3764:1;3768:10,16;3769:1;3771:17;3772:14;3775:23;3779:14;3782:16;3783:7
cancer (3)
3731:7;3774:18,18
capacity (3)
3696:23;3786:3;3787:1
Cape (11)
3709:21;3712:2;3721:14,20;3729:10,12;3735:2;3763:12;3764:15;3781:13,17
capture (1)
3693:11
car (2)
3731:16;3732:4
care (3)
3652:19;3654:24;3777:13
Case (23)
3652:7;3666:16;3669:11,16;3670:6;3672:23;3697:3;3699:4,24;3707:12,22;3708:17;3715:11,12,12;3716:20;3718:5;3727:15;3731:8;3735:22;3743:13,15;3786:16
cases (4)
3718:4;3741:21;3786:6,7
causation (1)
3772:23
cause (10)
3705:24;3710:13;3723:3;3758:1;3766:15;3767:11;3769:12;3772:19;3781:24;3782:22
cause/effect (1)
3710:6
caused (4)
3730:6;3765:24;3768:17;3772:16
causes (2)
3723:16;3759:11
causing (4)
3693:14;3766:20,20;3770:14
CAVAZOS (7)
3701:18;3756:9,9,11;3758:7;3760:9,12
certain (12)
3654:18;3671:7;3674:9;3677:1,6,18;3678:10;3732:22;3738:12,14,24;3739:22
certainly (6)
3679:4,19;3683:20;3686:16;3687:8;3771:22
certificate (1)
3654:8
cetera (3)
3741:7;3755:10;
3784:11
CHAIRMAN (131)
3652:2,10,16;3653:12,15,22;3654:5,7,10;3655:6,14,17;3657:3;3658:8,16;3660:1,2;3662:15;3665:6,10;3666:11,17;3674:3;3675:15;3676:2,20,23;3678:1,14;3679:4,9,16,20,23;3680:4,11,12,16,21;3681:5,8,17;3682:4,19;3687:6;3689:18,22;3691:2;3694:4;3698:1;3701:15,20;3705:16;3706:3;3707:5,16,18;3708:12,19;3709:2,6;3711:20;3712:8,15;3717:24;3727:4,21;3728:5,6,21;3729:3;3733:18,24;3736:22;3737:3,7;3745:7,9,18;3746:12,20;3747:15;3748:5,9,24;3749:3,13,24;3750:3;3754:24;3755:6,14,23;3756:1,2,6;3758:11;3760:5,10,15;3761:18,22;3763:22;3764:3;3768:8;3772:10;3773:10;3774:13,22;3775:1,3,7,11,22;3776:1,5,14,21;3777:4,7;3778:19;3780:6,15;3782:15;3783:9;3787:4,6,22;3788:5,8,11
chance (2)
3700:10;3769:20
chances (1)
3699:16
change (5)
3696:17;3707:10;3727:24;3730:16;3737:1
Changing (5)
3701:16;3765:6;3778:21,24;3784:15
Chapman (3)
3719:17;3721:2;3723:8
Chapter (1)
3657:7
chart (6)
3663:15;3683:16;3684:15;3686:18;3696:3;3786:16
charts (1)
3785:5
check (4)
3654:17;3686:16;3687:4;3708:4
checked (1)
3695:5
checking (2)
3684:19;3695:9
chest (3)
3731:5;3737:21;3738:5
choose (2)
3690:11;3713:24
chose (1)
3714:1
Chuck (1)
3652:2
circumvent (2)
3656:4;3662:5
citation (1)
3658:14
citations (1)
3667:4
cite (2)
3665:20;3676:9
cited (4)
3657:8;3658:3;3669:20;3729:11
claimed (3)
3666:9;3713:18;3714:15
claiming (1)
3729:16
clarify (4)
3706:4;3750:4;3756:20;3778:13
clarifying (1)
3778:11
Class (12)
3656:19;3659:4;3661:17,21;3676:3;3691:13,15,20,21,23,24;3692:2
classification (1)
3659:4
clean (1)
3756:22
cleaner (1)
3655:12
clear (7)
3656:2;3657:15;3677:15;3681:13;3682:10;3727:11;3775:13
clearly (11)
3656:11;3661:6;3668:8;3674:24;3705:8;3706:19;3722:2,9;3727:16;3728:18;3737:16
client (2)
3704:24;3705:1
close (4)
3698:18,18,19;3753:19
closer (5)
3700:10,15;3711:1;
3754:18,18
closest (1)
3701:10
closing (7)
3654:16,19,20;3657:16;3659:16;3703:11;3787:17
coaching (1)
3748:8
coalition (2)
3725:1,3
code (2)
3691:16,16
coined (2)
3715:6;3757:1
collect (2)
3696:17;3713:21
collecting (1)
3713:22
coming (2)
3692:18;3728:15
Commencing (1)
3652:1
comment (1)
3664:24
comments (2)
3665:12;3678:17
commission (1)
3713:4
commissioned (2)
3708:3;3725:1
common (6)
3723:7;3729:24;3730:9;3732:4,4,8
company (4)
3713:19;3743:18,19,23
compare (2)
3729:21;3730:8
compared (1)
3761:5
compares (1)
3755:21
comparing (1)
3695:1
comparison (4)
3670:11;3730:5;3781:4,5
compelled (1)
3743:9
complain (8)
3736:2,4,5,5,11;3749:19;3750:7;3761:8
complained (5)
3714:1;3734:16;3761:3;3762:4,6
complaining (11)
3655:8;3714:5;3730:13;3736:5,11,15;3744:12;3745:21,24;3746:16;3747:7
complains (2)

3736:9,14
complaint (1)
3741:2
complaints (27)
3713:19;3714:8;
3719:19,21;3720:2;
3732:23;3733:9,12;
3744:19,22;3747:5,7,
21;3748:17;3749:21;
3752:21;3753:3,13,17;
3755:9;3760:24;
3762:6,14;3763:3;
3764:22;3773:20;
3774:9
completely (4)
3678:1;3697:11;
3766:16;3784:21
Compliance (10)
3654:1,8,12;
3660:19;3661:4;
3662:2,19;3671:24;
3672:16;3701:9
concern (4)
3685:24;3720:8;
3722:24;3735:18
concerned (2)
3769:12;3770:9
concerning (1)
3723:9
concerns (1)
3721:3
concise (1)
3706:14
concludes (1)
3664:2
concluding (1)
3776:19
conclusion (6)
3671:22;3672:13,13,
22;3722:8;3785:1
conclusions (1)
3659:7
conclusory (2)
3664:3;3667:21
condition (3)
3721:10;3757:8;
3766:21
conditions (9)
3696:17,18,23;
3698:16;3699:19;
3724:2;3731:14,23;
3732:9
conducive (1)
3696:24
conducted (2)
3660:7;3719:10
conducts (1)
3705:16
confident (1)
3696:11
configuration (1)
3681:22
configured (1)
3687:20
confined (1)
3703:18
confirm (2)
3653:9,13
confirms (1)
3758:19
confused (1)
3748:11
confusing (2)
3737:14,15
confusion (1)
3769:15
conservative (4)
3668:7;3669:8;
3781:3,8
consider (3)
3674:5;3675:21,23
considered (1)
3687:18
consistency (1)
3671:7
consistent (5)
3666:7;3674:4;
3677:9;3678:21;
3731:11
constant (1)
3696:5
constitutes (1)
3656:19
constructed (1)
3693:13
construction (1)
3693:16
consultant (1)
3665:1
consultants (4)
3704:6;3705:3;
3707:21;3708:4
contact (1)
3767:22
contains (1)
3727:18
contents (1)
3745:13
context (1)
3665:15
continuation (1)
3652:5
continue (5)
3680:9;3682:6,7;
3766:23;3780:7
contour (1)
3664:15
contours (3)
3660:8;3662:18;
3664:13
contrary (1)
3672:22
conversation (1)
3663:5
convert (1)
3690:12
Cooper (5)
3711:11;3735:6;
3743:22;3763:12;
3767:5
Cooper's (1)
3765:16
copies (2)
3681:6;3705:8
copy (2)
3705:10;3781:14
CORNALE (102)
3652:2,9,10,16;
3653:12,15,22;3654:5,
10;3655:14;3657:3;
3660:2;3665:6,10;
3674:3;3676:2,23;
3678:14;3679:4,9,20,
23;3680:4,12,16,21;
3681:5,8,17;3682:4,19;
3687:6;3689:18,22;
3691:2;3694:4;3698:1;
3701:15,20;3706:3;
3707:5,18;3708:19;
3709:6;3712:8,15;
3717:24;3727:21;
3728:5,21;3729:3;
3733:18,24;3737:7;
3745:9,18;3746:12,20;
3747:15;3748:9;
3749:13,24;3750:3;
3754:24;3755:14;
3756:2,6;3758:11;
3760:5,10,15;3761:18,
22;3763:22;3764:3;
3768:8;3772:10;
3773:10;3774:13,22;
3775:1,3,7,11,22;
3776:1,5,14,21;3777:4,
7,24;3778:19;3780:6,
15;3782:15;3783:9;
3787:6,22;3788:5,8,11
corrected (1)
3653:3
correctly (2)
3690:2;3756:15
correlate (2)
3783:24;3784:4
correlated (4)
3763:4,6;3764:21;
3784:13
correlation (26)
3713:6,9,13;3714:7;
3738:11,20,24;
3739:21;3740:5;
3742:13,14,23;
3762:13,16;3763:10;
3764:8,14,17,19;
3783:16,19,22;
3784:19,23;3785:2,18
cost (1)
3692:23
cough (1)
3731:5
council (1)
3733:13
counsel (6)
3662:11;3701:16;
3702:6;3728:21;
3775:16,17
Count (1)
3663:17
countries (2)
3714:16;3716:16
country (2)
3716:15;3720:14
County (22)
3652:5,6;3654:10,
17;3670:18,19,20;
3701:15,15;3703:11;
3704:5;3705:3;3706:2;
3707:21;3708:2,20;
3719:7;3775:16,16,16,
17;3787:15
couple (5)
3683:13;3694:5;
3698:19;3764:7;
3779:11
course (3)
3685:2;3696:13;
3701:11
courthouse (1)
3707:19
covering (1)
3713:10
create (2)
3693:9,12
credibility (2)
3704:16;3727:24
Crichton (2)
3759:3;3774:6
criteria (1)
3731:10
cross (1)
3664:14
cross-exam (2)
3776:8;3781:15
cross-examination (8)
3664:16;3668:5,9,
22;3704:1,20;3705:16,
19
cross-examine (3)
3705:1;3708:16,18
cry (1)
3712:18
cumulative (1)
3703:5
curious (2)
3689:16;3732:22
current (1)
3693:19
curtailment (1)
3666:4

D

DASSOW (1)
3702:18
data (12)
3688:4,5,7,8,19;
3694:18;3695:12,19;
3753:14;3758:16;
3763:6,7
date (5)
3670:13;3680:15;
3727:13;3744:5,7
dated (1)
3720:19
DAVID (3)
3774:16,17,21
day (6)
3655:23;3678:9;
3680:23;3719:11;
3731:16;3772:1
days (1)
3696:13
dB (14)
3662:17,24;3696:9;
3697:5,15,18,21;
3778:3;3779:11,16,18,
24;3780:23;3785:11
dBA (3)
3784:1,1;3785:11
dBC (2)
3784:1,2
deal (3)
3678:12;3712:16;
3726:19
dealing (3)
3672:12;3673:8;
3741:15
deals (1)
3687:12
death (1)
3664:5
December (2)
3667:19;3720:19
decibel (11)
3660:8;3664:13;
3668:19,23;3685:9;
3687:21,21;3688:6,8,9;
3689:7
decibels (7)
3663:14;3664:9;
3670:11;3683:15;
3684:17;3686:23;
3697:9
decide (1)
3670:14
decided (1)
3680:14
decides (2)
3679:2;3766:23
decimal (2)
3689:11;3690:24
decision (5)
3674:6;3675:24;
3677:20;3715:24;
3716:8
decisions (6)

3677:8,8,9;3714:24; 3717:3,20
declaration (1) 3722:4
decrease (1) 3739:10
deeper (1) 3677:11
defer (1) 3680:14
deficiencies (1) 3671:23
define (2) 3784:9,10
defined (5) 3713:1;3737:12,16, 18,20
defines (1) 3738:4
definition (7) 3691:13;3713:7,15; 3731:8;3749:20; 3786:21,22
definitions (1) 3783:10
definitive (3) 3710:12;3781:23; 3782:21
definitively (1) 3693:22
demonstrate (1) 3671:5
demonstrating (1) 3672:15
denied (2) 3677:22;3718:11
density (3) 3754:20;3755:10,21
deny (1) 3675:19
denying (1) 3758:14
Department (1) 3725:6
depending (1) 3666:12
depends (2) 3766:7;3768:19
depth (2) 3710:1;3781:20
described (2) 3763:5,9
desert (2) 3754:11,12
design (7) 3654:8;3667:17; 3668:4;3693:7; 3710:22,23;3711:9
designed (1) 3736:13
despite (1) 3776:9
determination (2) 3763:8;3772:23
determine (3) 3687:16;3692:10; 3705:19
determined (1) 3782:20
developed (2) 3720:5;3733:2
development (1) 3720:12
diagnose (2) 3756:13,15
diagnosed (1) 3756:16
Diana (1) 3652:13
diaries (2) 3783:24;3784:3
diary (1) 3765:4
dictated (1) 3694:23
Diego (1) 3715:11
difference (5) 3670:8;3735:8; 3759:11;3780:23; 3781:7
different (13) 3660:11;3692:2; 3695:3,4,5;3723:8,16; 3739:7;3751:13; 3757:22;3770:23; 3774:11;3784:14
dig (1) 3677:11
diminishes (1) 3698:10
direct (5) 3657:6;3668:21; 3679:19;3727:23; 3745:23
direction (2) 3698:23;3731:6
directions (1) 3774:11
directors (1) 3675:5
disagree (1) 3678:24
disagreement (2) 3710:17;3782:10
discard (2) 3730:17,18
discarding (1) 3730:22
disclose (4) 3727:10,12;3728:9, 12
disclosed (5) 3705:22;3727:16,20; 3728:14,23
discovered (1) 3718:23
discredit (2) 3703:20;3704:14
discretion (1) 3705:6
discuss (4) 3655:1;3671:21; 3679:6;3777:8
discussed (6) 3652:24;3660:10; 3678:2;3681:2;3687:9; 3741:8
discussing (1) 3699:22
discussion (1) 3677:18
discussions (1) 3711:14
disease (15) 3733:14,16;3757:17, 18;3758:20;3765:24; 3766:2,15,20,24; 3767:2,7,8;3768:4; 3774:19
diseases (1) 3767:3
dismiss (1) 3731:21
disrupt (1) 3766:6
disrupted (1) 3766:11
dissect (1) 3771:10
distance (3) 3698:11,12;3699:1
distances (1) 3671:2
distinction (1) 3712:23
districts (4) 3682:12;3704:3,22; 3733:19
disturbance (2) 3712:21;3739:5
ditches (1) 3772:3
dizziness (5) 3723:15,16;3730:3; 3732:4;3784:11
Doc (1) 3768:21
Doctor (15) 3712:13;3715:18; 3720:15;3725:18; 3730:13,23;3731:1,2; 3732:16,16,20; 3756:15;3757:6; 3768:16;3783:4
doctors (1) 3756:13
doctor's (1) 3731:5
document (6) 3675:14;3706:10; 3720:23;3724:20; 3728:17;3785:24
documentation (1) 3670:11
documents (2) 3685:8;3758:19
done (23) 3664:15;3666:20,21; 3675:8,9;3679:24; 3686:13;3687:23; 3695:8;3712:16; 3717:14;3724:5; 3725:16;3737:3,5; 3753:21,23;3754:6,17; 3758:21,24;3759:23; 3775:20
double-check (1) 3695:23
doubt (1) 3675:1
down (7) 3686:3;3700:2; 3702:1;3760:24; 3765:20;3768:1; 3784:16
downwind (4) 3697:1;3698:15,22; 3699:4
Dr (54) 3665:14;3679:17; 3709:3,4,10,11,13,19; 3710:24;3715:14; 3716:6,13,13,17,19,21; 3722:13;3723:7,22; 3724:13,17,22;3725:1, 5,16;3726:1,17,22; 3727:20;3728:8; 3729:2,5,9;3731:8; 3732:10;3733:21; 3734:3,16,17,20,24; 3738:19;3739:20; 3745:22;3748:9; 3754:24;3756:3; 3757:1,6;3768:9; 3775:15,17;3781:22; 3782:17
drew (1) 3757:11
drive (1) 3700:16
drives (1) 3701:8
drop (1) 3689:12
due (6) 3671:23;3699:12,13; 3708:22;3780:16; 3785:9
duplicative (2) 3664:19;3724:10
during (2) 3666:3;3704:17

E

earlier (6) 3675:18;3677:7; 3718:14;3766:22; 3777:11,21
early (1) 3767:4
ears (7) 3732:12;3737:21,22; 3738:5,6;3770:8; 3772:19
easier (2) 3700:14;3762:18
eats (1) 3698:11
Ed (3) 3775:2,6,7
edge (5) 3663:11;3693:3,8, 10,15
effect (37) 3669:22;3718:14,15, 18,18,23;3721:1,5,5; 3723:4;3729:15; 3734:4,7,9,9;3735:22, 24;3741:21;3749:7; 3750:20;3759:16; 3761:1,12,16;3762:9; 3767:10;3769:13,16, 16;3770:4,13;3772:17; 3773:18,19;3774:10, 10;3782:8
effective (1) 3754:22
effects (29) 3692:20;3712:22,24; 3713:2,14,18;3714:14; 3715:5;3716:15; 3725:8;3729:16,19,19; 3730:12;3731:24; 3732:1;3733:3,4; 3737:13;3741:19; 3743:8;3750:9; 3757:13,19;3758:14, 15;3759:10;3767:12; 3783:1
efficiency (1) 3755:21
efficient (2) 3754:21;3755:17
effort (6) 3656:3;3662:4,7,9; 3671:21;3679:5
eight (4) 3655:7,10,11; 3705:11
either (13) 3660:15;3663:2,24; 3678:4;3689:12; 3698:23;3713:10;

3735:10;3765:5;
3769:6;3773:6;
3783:12;3784:15
electronics (1)
3785:10
eligible (2)
3703:13;3706:6
Ellenbogen (14)
3723:23;3724:14,17,
22;3725:1,5,17;3726:2,
18,22;3727:20;3728:8;
3732:10;3757:7
else (23)
3657:18,21;3659:13;
3662:4;3664:20;
3689:19;3693:23;
3694:2;3695:13;
3698:1;3732:13;
3736:15;3746:1,7;
3750:14;3758:5;
3763:22;3768:8;
3773:11;3774:13;
3775:11,13;3787:14
else's (1)
3664:11
elsewhere (1)
3664:15
emotion (4)
3722:23;3750:17,19,
23
emotional (1)
3750:23
end (5)
3652:24;3678:9;
3707:13;3774:18;
3776:3
Energy (3)
3652:7,8;3693:11
engineer (5)
3669:23;3693:20;
3754:15;3755:18;
3765:18
Engineering (3)
3707:20,23;3708:2
English (1)
3724:8
enhances (1)
3722:1
enough (2)
3653:23;3676:20
entire (4)
3659:1;3691:24;
3729:12;3763:12
entirely (1)
3694:16
entirety (1)
3660:4
entitled (3)
3654:15;3734:15;
3787:17
entries (1)
3765:4
environment (1)
3785:13
Environmental (3)
3715:7,19;3725:7
epidemiological (10)
3710:18,20;3714:3,
11;3735:4,9;3742:15,
21,24;3743:1
epidemiologist (2)
3710:21;3711:8
epidemiologists (1)
3713:22
epidemiology (4)
3711:16;3723:2;
3729:21;3766:18
equation (3)
3687:15;3688:15;
3689:9
error (3)
3663:1,3,8
essentially (1)
3787:2
established (1)
3761:15
establishes (1)
3783:18
et (3)
3741:7;3755:10;
3784:11
evaluated (2)
3723:15;3756:22
evaluation (2)
3721:21;3732:20
even (18)
3671:5;3688:13;
3717:22;3719:22;
3725:11;3727:5;
3735:2,3,23;3738:15;
3742:11,12;3743:3;
3745:6;3757:1;
3766:14;3772:4;
3782:5
evening (5)
3661:18;3671:5;
3679:5;3706:22;
3780:14
event (2)
3661:22;3776:15
events (1)
3748:20
everybody (7)
3652:17;3679:14;
3736:9,15;3772:11;
3787:18,24
everybody's (1)
3655:13
everyone (4)
3659:13;3679:10;
3682:5;3708:1
evidence (33)
3665:23;3666:1;
3672:17;3674:6;
3675:21,23;3702:16,
24;3703:1,3,5,9,13,14,
17,18,20,24;3704:8,11,
12,14,19;3705:5,18;
3706:6,7;3715:24;
3717:16;3743:8;
3747:16;3764:17,18
evident (1)
3721:14
evolution (2)
3725:12;3754:16
evolving (1)
3719:14
exacerbated (1)
3741:20
exact (6)
3668:8,16;3697:16;
3744:5,7;3786:22
exactly (13)
3685:21;3686:8,9,
23;3692:24;3695:21;
3697:23;3708:15;
3734:20;3740:14,16;
3745:19;3748:19
exam (1)
3751:15
examine (2)
3751:16;3757:2
examining (1)
3756:24
example (12)
3660:17;3662:16;
3695:19;3696:22;
3715:6;3721:19;
3732:12;3733:7;
3757:23;3764:22;
3785:22;3786:1
examples (1)
3785:16
Excedrin (1)
3769:24
Excellent (1)
3729:20
Except (5)
3673:13;3686:19;
3728:13,16;3749:6
excluded (1)
3659:3
excuse (7)
3671:19;3685:11;
3686:6;3717:13;
3721:16;3764:10;
3770:24
executive (2)
3738:1;3739:6
exhibit (31)
3653:2,5,7,10,24;
3654:11;3657:8,9,10,
11;3663:16;3675:22,
23;3676:15;3680:18;
3682:8;3685:6;
3690:20,23;3691:4;
3715:20;3716:4;
3717:21;3720:19;
3724:18,21;3725:18,
24;3727:13;3734:3;
3777:21
exhibits (13)
3652:20;3656:16;
3674:9;3681:21;
3682:14;3687:9;
3703:4,7,19;3704:13;
3705:7,13;3706:17
exist (1)
3752:21
existing (1)
3750:9
expansive (1)
3724:5
expect (6)
3670:19;3696:22;
3697:17;3700:1;
3779:15,21
expectations (1)
3718:19
Expected (4)
3654:14;3696:4;
3697:21;3707:23
expecting (3)
3653:21;3770:6;
3773:2
experience (5)
3723:10;3732:11;
3753:16;3772:16;
3786:4
experienced (1)
3722:18
experiencing (2)
3741:19;3784:12
expert (12)
3656:6,7;3662:21;
3663:2,23;3672:21;
3673:20;3674:20,23;
3727:6,7,15
experts (2)
3727:5;3747:11
explain (12)
3680:1;3692:19;
3702:11;3703:19;
3704:13;3710:16;
3722:21;3768:16;
3778:14;3779:23;
3780:23;3782:9
explains (1)
3721:2
exposed (2)
3731:3;3759:14
exposing (1)
3759:2
exposure (3)
3723:19;3731:12;
3769:4
extend (1)
3706:8
extent (2)
3705:4;3777:22
extremely (2)
3741:22;3785:11

F

facility (2)
3667:17;3668:3
fact (39)
3658:9;3663:4,15;
3664:18;3666:5,5;
3671:8;3674:3;3708:4;
3711:13;3713:16,20;
3716:10;3717:8,9,17;
3720:6;3722:22;
3723:6;3730:23;
3732:21;3734:16;
3735:6;3742:11;
3746:15;3748:12;
3751:3;3753:11;
3754:8;3756:20;
3757:15;3758:23;
3762:12;3767:24;
3778:6;3779:19;
3780:1;3782:20;
3783:18
factor (1)
3762:11
factors (2)
3669:8;3774:11
facts (2)
3664:21;3707:22
fail (1)
3784:22
fair (8)
3653:22;3678:21;
3696:3;3724:4;
3755:11,12;3773:18;
3780:17
Fairbury (1)
3774:17
faith (1)
3721:8
familiar (7)
3691:10;3714:23;
3720:20;3727:16;
3753:7,11;3755:17
family (1)
3659:3
far (5)
3657:14;3712:17;
3736:24;3766:17;
3786:16
farm (17)
3659:3,6;3692:23;
3710:13;3712:19;
3722:4,19;3733:11;
3738:12;3739:7,9,11,
22;3742:2;3748:22;
3781:24;3782:23
farms (9)
3719:15,21;3724:7;
3733:8;3747:17;
3748:16;3753:5;
3759:2,23
father (2)

3730:20;3752:13
faulty (1)
3746:18
favor (1)
3788:9
federal (1)
3715:11
feel (15)
3677:18;3697:20;
3706:10;3721:7,9,10;
3723:3;3769:6,23;
3770:2,6,21;3772:4;
3773:3;3782:17
feeling (11)
3721:8;3722:10,11;
3735:23;3768:23;
3769:14,21;3771:8;
3772:22;3776:8;
3788:1
feelings (3)
3773:24;3774:1,2
feels (1)
3723:3
feet (4)
3661:10;3698:19;
3699:2,2
Fehr (1)
3711:20
fell (1)
3764:11
felt (8)
3743:9;3750:15,20;
3769:13,14;3770:7,17,
23
few (12)
3652:18,20,23;
3674:22;3675:11;
3706:4;3707:6;
3716:23;3741:22;
3756:4;3776:12;
3779:12
field (2)
3674:24;3783:13
fields (1)
3772:2
fifth (2)
3685:14;3738:2
fight (1)
3681:15
figure (7)
3663:16;3688:14,16,
22;3689:1,2,6
figures (1)
3688:12
file (2)
3673:11,11
filed (1)
3787:14
fill (2)
3653:16;3655:3
final (5)
3694:19;3724:21;
3726:1;3728:18;
3787:12
Finally (2)
3668:23;3674:12
financial (1)
3773:21
find (8)
3657:9;3666:6;
3698:21;3739:20;
3762:8;3767:17,19;
3768:2
findings (1)
3744:1
fine (6)
3679:3,22;3684:6;
3736:20;3756:6;
3764:4
finish (3)
3717:4,6;3749:13
first (29)
3656:18;3660:18;
3664:4,7;3665:21;
3679:18,19;3683:5,10;
3685:7,23;3690:14;
3703:18;3710:20,23;
3712:16;3716:6;
3736:10,12,15;
3740:16,23;3754:9;
3762:12;3775:5;
3777:20;3779:24;
3780:11,12
five (17)
3681:16;3686:9,22;
3688:14,15;3704:18;
3752:1;3764:23;
3765:5;3784:8,8,12,22;
3786:2,6,15,20
flight (1)
3693:5
floor (2)
3785:9,10
flow (1)
3693:9
flows (1)
3664:20
focus (4)
3712:13;3720:15;
3727:22;3755:2
folks (3)
3722:14,17;3731:21
follow (2)
3684:3;3721:18
followed (1)
3703:11
following (3)
3704:1,20;3715:10
follow-up (1)
3720:24
foment (1)
3722:10
fomenting (1)
3722:1
foremost (1)
3710:23
forget (1)
3786:21
form (3)
3716:24;3755:3;
3782:6
forth (2)
3665:11;3787:16
Fortunately (1)
3779:3
forward (3)
3677:1;3679:13;
3707:2
Fosdick (2)
3665:1,3
found (12)
3712:4;3715:13,14;
3719:20;3725:8;
3738:11;3739:2,4;
3742:6,13;3761:7;
3787:4
foundation (3)
3692:7;3726:14;
3783:5
four (9)
3684:12;3690:8;
3697:8;3739:6;3765:5;
3784:13;3786:19,20,21
fraction (1)
3765:21
frankly (1)
3666:12
Freed (1)
3653:17
freeze (1)
3772:2
frequencies (2)
3699:21;3740:19
frequency (2)
3700:9;3701:12
fresh (1)
3776:3
front (4)
3683:2;3684:10;
3702:10;3771:23
full (3)
3696:23;3707:11;
3781:13
functioning (1)
3762:15
funded (4)
3710:22;3743:11,15,
20
Further (13)
3676:1;3681:19;
3687:5;3698:6,14;
3700:8,14;3702:11;
3707:8;3727:12;
3755:16,24;3766:22

G

gain (1)
3773:21
gaining (1)
3652:17
Gap (3)
3753:7,9;3755:4
gather (1)
3774:7
gave (4)
3667:4;3676:2;
3732:15;3769:24
GE (8)
3654:9;3669:4,23;
3683:9,9;3684:12;
3688:4,20
general (3)
3655:21;3676:11,13
generally (1)
3785:13
generated (1)
3725:14
gentleman (1)
3752:3
given (12)
3683:2;3685:8;
3688:4;3694:10,17;
3696:15;3708:17;
3714:4;3729:12;
3761:4;3776:7;
3779:19
giving (3)
3682:16;3709:14;
3769:18
goes (10)
3659:24;3664:1;
3668:6,14;3674:7;
3688:7;3696:10;
3742:1;3766:17;
3773:24
good (6)
3652:18;3705:24;
3775:16;3787:3,22;
3788:1
Gotcha (1)
3711:3
government (4)
3682:12;3704:2,21;
3733:19
Granted (1)
3715:9
graphs (5)
3742:7,9;3763:18;
3784:19;3785:21
great (1)
3711:15
greater (5)
3668:24;3686:6,7;
3696:9;3719:22
Griffin (2)
3663:5,21
group (3)
3729:22;3730:5;
3772:24
guess (21)
3653:21;3654:17;
3664:8;3667:6;
3669:13;3676:24;
3678:22;3680:7;
3681:17;3687:24;
3700:3,17;3701:4;
3730:10;3731:20;
3757:10,18;3758:13;
3782:6,11;3786:12
guy (1)
3752:12
guys (4)
3679:6;3702:5,6;
3756:5

H

hairs (1)
3689:15
half (5)
3698:8;3699:7,17;
3700:6,16
hall (5)
3719:6;3744:3,13,
23;3746:17
handed (2)
3695:13;3720:18
Handing (1)
3695:15
handle (1)
3703:16
Hankard (29)
3663:6;3664:10;
3665:14;3667:18;
3668:21;3669:2,6,7;
3678:4;3679:12,12,19;
3680:4,5;3681:3,19;
3683:2;3687:8;3690:1;
3694:5;3701:17,24;
3710:4;3760:22;
3777:16,20;3779:6;
3780:6;3782:15
Hankard's (6)
3663:19;3666:6;
3668:4;3670:8;3675:9;
3762:6
happen (3)
3700:15;3772:22;
3779:14
happened (3)
3665:24;3750:13;
3771:11
happens (1)
3675:4
hard (5)
3663:7,16;3705:8;
3711:1;3782:7
harmful (1)
3766:11
harmless (1)
3766:17
Harrison (4)
3673:24;3674:13,18;
3675:22

Hartke (16)
3665:23;3666:2,12;
3673:11,12;3720:16;
3744:4,17;3745:2,5,11,
21,23;3746:4,7,16
Hartke[sic] (1)
3746:10
Hartke's (6)
3666:15;3719:2;
3744:8,19,22;3771:4
harvesting (1)
3666:4
hate (1)
3774:17
HAYES (14)
3687:11,14;3724:15,
16,18,20,23;3727:13;
3728:16;3763:23;
3764:4,6,7;3768:7
head (9)
3668:11;3688:3;
3709:12;3718:9;
3731:20;3732:6;
3737:21;3738:5;
3769:10
headache (7)
3723:11;3730:3;
3737:21;3738:4;
3769:19,20;3772:16
headaches (3)
3730:6;3769:1;
3784:10
health (19)
3712:21,23;3713:2,
7,14,18;3714:14;
3716:15;3723:4;
3724:7;3725:8;
3730:14;3737:13;
3743:8;3763:19;
3766:12,17;3774:8;
3783:1
hear (22)
3655:20;3657:15;
3661:18;3699:7,8,23;
3700:14,15;3702:18;
3719:8;3738:17,19;
3765:8,10;3768:11,21;
3771:7;3775:4;
3778:20,22;3782:6;
3786:23
heard (11)
3653:19;3664:9;
3676:24;3714:22;
3720:7;3736:4;
3745:10;3753:16;
3768:15;3771:6,6
hearing (20)
3652:5;3658:4,11;
3659:10,15;3661:9;
3674:4;3697:22;
3700:5;3702:3;3711:2;
3718:11;3722:15;
3745:10;3747:4;
3748:23;3750:7;
3780:8,11;3782:5
hearings (15)
3709:7,20;3718:14;
3720:13;3746:23;
3747:4,9,21,22;3748:5,
19,21;3749:16,17,20
hearsay (2)
3727:2,4
heart (2)
3737:22;3738:6
heaviness (2)
3737:23;3738:6
height (1)
3669:1
help (3)
3706:21;3721:6;
3769:20
Hence (1)
3749:18
here's (1)
3684:10
hertz (19)
3660:8;3662:17;
3664:12;3683:15;
3684:18;3686:5,24;
3691:8;3696:9;
3697:10,18;3698:5;
3699:23;3700:4;
3701:5,7,11;3778:5;
3779:19
hey (1)
3732:17
high (5)
3672:20;3697:15,18;
3732:12;3739:5
higher (2)
3700:7;3754:19
highest (1)
3765:4
himself (1)
3727:23
hired (2)
3707:21;3743:22
historic (1)
3707:19
history (1)
3723:22
hits (1)
3701:10
hold (1)
3757:11
holds (1)
3773:19
home (2)
3661:11;3692:8
homes (6)
3712:17;3713:17;
3755:4,4;3785:6,23
honest (1)
3729:11
hope (2)
3771:22;3787:13
Hopefully (1)
3781:11
hoping (2)
3655:18,19
Hornbook (1)
3657:20
hospital (1)
3725:4
hot (1)
3692:22
hours (2)
3679:7;3741:23
house (4)
3692:1;3785:22,23;
3786:9
household (3)
3691:17,21,22
Howard (1)
3652:14
how's (2)
3685:19;3726:15
hub (2)
3669:1;3692:14
Huisman (13)
3652:14;3682:3;
3689:21,24;3690:1,19,
22;3691:6;3694:2;
3729:6,8;3788:7,8
human (3)
3722:23;3772:20;
3775:9
hundred (3)
3696:11;3698:19;
3736:10
hurt (1)
3769:10
Hydro (1)
3743:17
hypersensitive (1)
3786:11
hypothesis (5)
3734:4,7,12,18,23

I

IC (2)
3658:2;3661:1
idea (6)
3662:7;3725:13;
3736:1;3743:16;
3771:10;3773:5
identical (2)
3673:6,21
identification (1)
3740:24
identified (4)
3658:10;3667:22;
3716:22;3757:2
identify (5)
3705:12;3706:16;
3718:2,3;3727:17
ii (1)
3739:24
Illinois (14)
3656:9,18;3657:7,
20;3658:10;3659:22;
3660:6,13;3669:11,16;
3672:21;3691:10;
3748:22;3749:16
impact (5)
3669:19;3719:10;
3720:16;3741:19;
3785:1
impactful (2)
3786:22,23
impacts (1)
3724:7
important (11)
3679:21;3712:22;
3714:9;3723:20;
3724:1;3729:23;
3768:5,6;3780:7,10;
3782:20
impossible (1)
3750:6
improper (1)
3662:13
improvement (1)
3770:2
include (6)
3691:23,24;3712:20;
3716:17;3737:20;
3738:4
included (1)
3668:4
includes (1)
3656:16
including (6)
3665:1;3669:18;
3704:2,15,21;3766:5
inconsistent (2)
3663:19;3667:18
incorrect (1)
3750:11
increase (4)
3720:2;3739:9;
3747:22;3759:13
increased (3)
3725:8;3739:13;
3742:10
increasing (1)
3748:17
incredible (1)
3772:5
indicate (2)
3732:12;3783:11
indicated (2)
3742:2;3767:11
indicates (2)
3722:9;3741:1
indicating (1)
3658:24
individual (6)
3728:23;3755:22;
3759:8;3768:2,3;
3771:12
individually (2)
3742:9;3771:10
individuals (14)
3708:21;3712:17;
3713:17,18;3715:4;
3716:16,24;3724:3;
3729:10;3730:19;
3732:14;3756:24;
3759:3;3787:16
influencing (1)
3690:9
information (13)
3672:20;3673:3;
3682:8;3713:21;
3727:18;3743:10;
3745:14;3755:9;
3759:9;3761:4;
3771:15,20;3774:8
infrasound (4)
3699:22;3759:19;
3760:7,8
input (5)
3688:7,14;3694:18;
3695:12,12
inputs (1)
3695:4
inputting (1)
3695:19
inquire (1)
3705:17
inside (2)
3785:6,10
instead (2)
3655:10;3780:12
instruments (2)
3762:7;3785:7
intend (1)
3735:2
intended (1)
3703:6
intent (1)
3783:1
interaction (1)
3771:12
interested (15)
3653:4;3654:15;
3703:8,12,21;3704:3,4,
8,10,18,22;3705:1,9,
15;3706:5
interesting (1)
3785:4
Internal (2)
3726:3,6
Internet (6)
3711:15,18,24;
3712:7,10;3770:24
interpret (2)
3669:16;3692:6
interpretation (1)
3692:4
interrupt (2)
3715:17;3762:17
interrupted (2)

3666:21;3764:11
interviewed (1)
3767:9
interviews (1)
3767:14
into (13)
3653:6;3664:14;
3666:1;3677:11;
3681:15;3688:14;
3694:18;3695:19;
3707:14;3717:7;
3757:10;3759:17;
3760:1
introduce (3)
3656:16;3703:5;
3728:17
introduced (2)
3703:1,3
introduction (2)
3702:16,24
Invenergy (2)
3663:6;3665:2
Invenergy's (1)
3753:9
inversion (1)
3697:2
investigate (1)
3783:1
involve (1)
3732:13
involved (2)
3695:16;3725:2
IPCB (8)
3658:3,10;3660:22;
3661:1;3662:2;3664:8;
3667:20;3762:8
IPCB's (1)
3660:19
irrelevant (1)
3712:4
irritability (1)
3723:11
ISO (4)
3668:19;3680:23;
3681:23;3682:17
issue (16)
3656:20;3658:7;
3666:13;3667:16;
3673:5,6;3692:22;
3693:14;3714:10,10;
3717:7,16,16;3721:4;
3722:24;3727:2
issues (5)
3656:10;3670:5;
3713:7;3720:11;
3763:19
Italy (1)
3774:7
item (6)
3653:23;3660:5;
3667:16;3669:10,17;
3670:22
items (1)
3655:8
Iverson (1)
3652:14

J

January (3)
3667:19;3680:24;
3685:7
JCAR (1)
3658:3
Jerry (3)
3714:12;3781:16;
3783:2
Joan (2)
3652:14;3690:1
JoAnne (4)
3694:11,22;3695:6,
20
job (2)
3695:13;3787:23
John (14)
3652:11;3698:2;
3760:17,19;3761:21,
24;3762:1,17,20,23;
3763:1,21;3764:7,12
Jon (1)
3653:17
journal (1)
3726:8
judge (1)
3751:1
judgment (1)
3767:16
Judith (3)
3753:7,9;3755:4

K

keep (5)
3709:12;3714:10;
3764:12;3782:2;
3788:2
keeping (3)
3679:5;3706:13,21
Kelson (5)
3752:6;3768:14,15;
3772:12;3773:8
key (1)
3773:1
kids (3)
3730:20,20;3772:6
Kiefer (1)
3652:13
kilowatts (1)
3786:24
kind (14)
3664:3;3677:19;
3678:17;3689:14;
3693:8;3695:15;
3698:16;3702:11;
3715:1;3757:1;
3766:14;3776:23;
3785:2,12
King's (1)
3715:14
Klaeren (1)
3708:17
KNAUER (4)
3773:13,14,16;
3774:12
knew (2)
3711:22;3787:6
knife (1)
3693:7
Knopper (2)
3720:10;3774:6
K-N-O-P-P-E-R (1)
3720:10
knowledge (2)
3752:17;3771:24
knows (2)
3664:14;3761:15

L

lab (1)
3759:6
labeled (1)
3785:23
laboratories (1)
3759:19
laboratory (1)
3760:2
lack (1)
3740:12
land (4)
3661:15,17,17;
3691:16
language (3)
3661:15;3691:17;
3724:8
large (2)
3719:22;3754:19
larger (1)
3720:11
last (10)
3652:24;3681:2,3;
3719:7;3744:6;
3745:16;3746:5;
3759:18;3779:9,11
lasting (1)
3741:22
late (1)
3652:15
later (5)
3661:18;3678:24;
3679:2,3;3680:14
latter (1)
3778:1
law (18)
3656:9,18;3657:14,
20,23;3659:22;3660:6,
13;3661:2,6,6,12,13;
3669:12,16;3672:16,
21;3691:10
lawyer (1)
3657:21
lay (1)
3755:22
LBCS (1)
3691:15
lean (1)
3711:5
leaning (1)
3730:15
learn (1)
3730:13
least (6)
3665:23;3671:9;
3678:12;3748:22;
3750:14;3779:8
leave (3)
3759:21;3781:13,15
led (1)
3693:6
left (4)
3658:6;3700:8;
3770:18;3787:19
legal (12)
3659:7;3671:10;
3714:15,23;3715:2,3;
3716:15;3717:9,17;
3718:1,4,5
legally (1)
3677:3
length (2)
3726:19;3776:7
lengthy (1)
3776:10
less (7)
3693:9,12;3698:13;
3770:1;3774:19;
3786:3,7
letter (9)
3653:17;3660:4;
3666:14;3671:19;
3672:2;3673:5,17,19,
23
level (19)
3660:18;3661:3;
3671:24;3683:15;
3684:18;3685:9;
3686:6,23;3688:5;
3690:9,11;3696:19;
3698:12,13;3701:4,6;
3730:3;3778:4;3781:1
levels (24)
3664:9;3669:4;
3670:12;3671:3;
3684:24;3686:3,4;
3696:7,12,21;3701:2;
3754:1;3761:6;3762:8;
3765:19;3766:9;
3782:3,3,5;3783:23;
3784:3;3785:3,7,14
life (1)
3730:16
likely (3)
3721:7;3769:18;
3770:1
limit (4)
3664:8;3690:5,7;
3701:10
limitation (1)
3682:9
limited (2)
3689:2;3704:12
limits (1)
3667:20
line (7)
3660:20,23;3661:2,
6,10;3691:9;3747:17
lines (1)
3662:19
link (1)
3653:2
list (9)
3654:15,18,21;
3680:19,19,19;
3690:20;3784:20;
3787:16
listed (4)
3685:8,10;3690:15;
3691:15
listen (1)
3771:4
listened (2)
3670:2;3767:15
literally (1)
3693:6
literature (12)
3720:4;3723:9;
3724:6,8,9;3725:13;
3733:1;3736:7;
3748:15,16;3754:15;
3758:19
little (9)
3685:19;3688:11;
3689:15;3702:4;
3711:1;3755:15;
3760:20,21;3776:22
live (1)
3754:5
living (1)
3661:10
Livingston (5)
3652:5,6;3704:5;
3705:3;3719:7
LLC (1)
3652:7
LNTE (15)
3669:19,22;3670:4;
3680:19;3681:22,24;
3683:6,8;3684:12;
3686:2;3690:4,13;
3692:20,23;3778:2
local (4)
3682:12;3704:2,21;
3733:19
locations (2)
3697:13;3785:17

lodged (1)
3719:21
long (2)
3713:11;3718:23
look (35)
3652:19,20,22;
3657:5;3662:16;
3668:4;3670:3;3683:1;
3690:14;3700:21;
3707:21;3710:21;
3711:8,9,10;3715:3;
3723:2;3724:2;
3732:24;3742:7,8,9;
3743:9,11,12;3752:2,7,
18;3754:15;3763:7,16,
17;3772:3,3;3784:7
looked (16)
3689:9;3694:15;
3719:13,15,18,19;
3720:11;3763:6,19;
3767:6;3770:16,24;
3771:15,21;3785:20;
3786:12
looking (9)
3658:18;3676:8,14,
19;3713:2;3720:5;
3723:20,22;3759:10
looks (2)
3693:7;3712:16
loss (1)
3667:6
lost (1)
3706:10
lot (6)
3655:12;3658:4;
3661:9;3671:6;
3713:12;3773:17
loud (2)
3698:13;3786:22
louder (10)
3667:3;3698:8,15;
3699:5,16;3700:1,2;
3711:7;3779:16,18
loudest (2)
3696:4;3697:9
low (6)
3693:15;3699:21;
3742:3;3785:7,9,15
lower (2)
3696:12;3700:8
ludicrous (1)
3657:13
LUETKEHANS (132)
3653:11,12,14,16,18;
3654:3;3655:4,6;
3656:17;3657:1,4;
3658:16,19,21;3659:9,
24;3660:24;3661:20;
3662:6;3663:3,20;
3664:6;3665:5,21;
3666:17,22;3667:6,11,
15;3668:2,14;3669:13;
3670:1,23;3671:14;
3672:6,11;3673:1,8,14;
3674:1,3,15;3675:11;
3676:7,11,13,17;
3678:20,22;3681:1,9,
12;3682:13,16,20,21,
24;3687:5;3707:16;
3708:12;3710:24;
3711:4,6,17;3712:1;
3716:5,18;3717:2,5,11,
13,19;3718:10;
3724:10;3726:14,21,
24;3727:5,7,19;
3728:11,14;3733:20,
22;3734:2;3736:23;
3737:5,9;3744:16,21;
3745:4;3746:2,8,14,22;
3747:3,12,19,24;
3748:3,6;3749:1,5,8,
11,13,15;3750:3,5;
3755:1,6,24;3762:17,
21;3764:1,12;3775:7,
12;3776:11,17;3778:9,
12,15,18;3779:1;
3780:3,9;3782:13;
3783:3,7;3784:14
Luetkehans's (2)
3655:20;3776:9
lung (1)
3731:7
lying (2)
3751:9,11

M

Maffulli (1)
3774:7
Maier (23)
3652:22;3655:2,23;
3656:4;3657:5,5;
3658:9,14;3659:18;
3661:22;3663:23;
3665:5;3667:1;
3673:18;3674:20,22;
3675:10;3676:4;
3678:5,6,16;3787:11,
12
Maier's (7)
3656:3,21;3659:21;
3665:12;3671:20;
3673:10;3674:13
main (2)
3754:8;3772:15
major (3)
3713:3;3730:16;
3741:2
majority (1)
3719:20
makes (5)
3712:23;3769:10;
3773:22;3776:13;
3783:2
mandatory (1)
3666:3
manner (1)
3694:22
many (7)
3664:23;3683:18;
3723:10;3732:7;
3754:4;3767:3;
3784:20
map (1)
3664:15
March (5)
3653:6;3727:10,14;
3728:10,19
Marcus (1)
3652:22
margin (2)
3668:4,15
margins (1)
3667:17
Mark (2)
3709:3,4
marked (2)
3705:8;3720:18
MaRous (2)
3776:7,10
Massachusetts (1)
3725:6
match (1)
3784:2
material (1)
3667:2
materials (1)
3714:20
math (5)
3663:4,9;3683:17;
3684:1;3686:13
matter (5)
3653:5;3657:18;
3709:15;3715:20;
3727:17
matters (1)
3652:23
Maubach (5)
3775:2,2,4,6,9
maximum (7)
3696:7;3739:13;
3778:3,4,6;3779:14,21
may (31)
3659:12,12;3666:13;
3670:14,14;3678:18;
3679:16;3680:9,10;
3688:13;3701:18;
3704:24;3705:21;
3707:6,9,14;3715:17;
3727:3;3732:12,13;
3733:12,12;3736:19;
3769:12;3777:11;
3786:1,4,5,15,19;
3787:9
maybe (6)
3679:14;3697:1;
3730:11;3738:2;
3767:5;3772:13
McMurtry (1)
3731:8
MD (1)
3783:12
mean (29)
3667:11;3672:7;
3678:15,16,24;
3692:11;3700:7,15,17,
21;3721:24;3722:22,
23;3730:16;3731:19;
3733:8,15;3738:18;
3742:22;3749:20;
3753:1;3757:20;
3758:9;3766:16;
3767:1;3774:5;3780:2;
3785:12;3787:2
meaning (1)
3669:11
means (4)
3658:15;3689:12;
3695:15;3712:24
meant (2)
3689:7;3737:11
measure (3)
3660:20;3696:13;
3781:5
measured (11)
3667:3;3670:12;
3684:24;3685:2;
3691:8;3697:7,8,9,14;
3779:17;3782:4
measurement (3)
3691:19;3692:7;
3697:13
measurements (8)
3660:7,22,24;
3661:24;3662:1;
3666:3;3698:20;
3759:24
measures (2)
3669:18;3696:11
measuring (10)
3692:11;3697:1;
3698:7;3700:3;3738:9;
3761:6;3762:7,10;
3774:3;3785:6
medical (10)
3710:17;3723:14,22;
3734:10;3735:7,8,10,
12;3783:4,10
medication (1)
3721:6
Medicine (3)
3726:3,6;3783:13
meet (4)
3657:19;3707:11;
3787:8,9
meeting (28)
3652:17;3653:1;
3677:19;3707:6,7,8,9,
13,14,24;3719:6;
3722:4;3744:3,13,18,
24;3745:3,5,12,13,15,
16;3746:5,17;3777:9,
11,13;3787:9
meetings (4)
3722:9;3747:16;
3748:5,18
megawatt (2)
3719:23;3787:1
Members (2)
3687:6;3788:10
mental (1)
3757:14
mention (2)
3725:11;3771:5
mentioned (6)
3662:16;3671:4;
3724:13;3729:9;
3758:4;3784:15
mere (1)
3714:4
message (1)
3759:17
met (2)
3670:15;3672:15
meter (4)
3685:14,15;3686:19;
3785:8
meters (6)
3668:20;3669:1,2,5;
3739:13;3784:17
method (2)
3668:18;3781:4
methodology (2)
3665:14;3697:16
mic (1)
3764:2
Michael (2)
3652:8;3777:16
Michigan (1)
3732:11
microphone (2)
3756:8,19
middle (1)
3661:8
might (9)
3684:10;3690:8;
3691:24;3709:15;
3731:13,22;3757:23;
3777:10;3787:3
Mike (1)
3682:13
mile (4)
3698:7;3699:17;
3700:17;3754:5
miles (5)
3698:8;3699:7,17;
3700:6,16
mind (2)
3714:10;3772:21
minor (1)
3770:18
minus (3)
3668:19,23;3784:1
minute (1)
3733:23

minutes (7)
3681:16;3683:13;
3706:23;3716:23;
3775:21,24;3776:2
misleading (1)
3688:11
missed (3)
3701:22;3746:12;
3777:11
mistaken (2)
3665:22;3685:13
misunderstood (1)
3689:8
mitigation (1)
3669:18
model (24)
3665:16;3680:20;
3681:23;3684:12,15;
3686:2;3688:5;3690:4;
3692:13;3694:16,17,
23;3695:3,19,20,22;
3697:10,12,15;3701:1;
3779:20;3780:24;
3781:6,7
Modelled (3)
3685:4,5;3693:4
modelling (2)
3656:10;3778:8
models (2)
3694:7;3700:23
modify (3)
3703:20;3704:14;
3778:16
moment (3)
3715:17;3755:23;
3782:18
month (1)
3723:23
months (4)
3666:4;3696:14;
3697:8;3723:24
more (24)
3679:20;3688:21;
3690:12;3699:21;
3701:13;3714:4;
3721:6,13,13;3731:17,
23;3732:9;3736:5;
3754:21,21,22;
3755:16;3758:21;
3762:13,15;3763:18;
3769:17;3770:3;
3776:12
morning (1)
3706:2
most (3)
3664:21;3751:3;
3782:20
mother (1)
3730:19
motion (15)
3655:19,22;3656:21;
3673:11,12;3674:8,9;
3675:18;3731:15,18;
3777:8;3787:12,13;
3788:3,4
motions (2)
3652:21;3788:6
move (14)
3667:10;3673:4;
3676:21;3677:1;
3700:2;3707:14;
3712:9,10;3718:6,13;
3724:13;3728:24;
3737:8;3746:21
moving (4)
3679:5;3680:1;
3706:22;3786:4
Mrs (1)
3752:6
much (8)
3653:21;3659:15;
3668:11;3698:23;
3736:6;3749:4;
3770:11;3784:4
muscle (1)
3768:24
must (1)
3689:5

N

nacelle (1)
3692:14
name (3)
3758:6;3775:5,23
named (1)
3759:3
narrowband (3)
3660:8;3662:18;
3664:13
National (1)
3711:23
natural (3)
3776:23;3777:3;
3787:4
nature (5)
3705:17;3708:7,23;
3722:24;3781:3
nearby (1)
3693:15
necessarily (5)
3690:6;3706:9;
3721:10;3762:16;
3766:16
neck (4)
3768:17;3769:10,15;
3770:7
need (24)
3652:19;3654:24;
3668:7;3677:3,15;
3681:7,20;3690:11;
3691:19;3696:17;
3706:19;3723:1,2;
3727:22;3729:24;
3732:9,24;3735:15,16;
3756:13,21;3760:20;
3775:3;3788:3
needs (1)
3659:4
negative (10)
3721:8;3722:4;
3757:13;3758:15;
3759:16;3766:19;
3767:23;3769:17;
3770:1;3773:24
Neither (2)
3665:5;3675:16
Nelson (1)
3653:5
new (6)
3680:19;3694:16,18;
3703:5;3710:6;
3721:12
news (1)
3722:5
Next (24)
3653:5,23;3658:5;
3660:4;3662:15;
3666:8;3670:21,21;
3671:17;3677:19;
3681:16;3684:9;
3685:22;3686:18;
3689:12;3707:6,7,8,24;
3736:11;3741:6,10;
3762:23;3777:9
nice (1)
3772:1
night (2)
3696:16;3787:11
nighttime (5)
3664:9;3683:15;
3684:18;3686:23;
3697:2
Nina (2)
3715:5;3757:1
nine (2)
3655:7,8
nobody (1)
3755:8
nocebo (28)
3718:13,15,18,23;
3721:1,4,4;3734:4,7,9,
9;3759:16;3761:1,11,
16;3762:8,11,11,16;
3767:10;3769:13,16,
16;3770:1,4;3772:17;
3773:17;3774:10
noise (46)
3656:10;3657:18;
3660:6,8,18;3661:3;
3662:18;3664:9,13;
3665:15;3669:17;
3670:5;3671:2,23;
3686:5;3690:9;
3692:17;3693:12,15;
3698:23;3700:15;
3725:4;3739:16,18;
3741:1,4;3742:2;
3743:5;3754:1;
3757:16;3760:1;
3761:4,6;3762:6;
3763:3;3766:4,8;
3778:4;3783:23;
3784:1,3;3785:3,6,8,9,
10
noncompliance (1)
3672:21
none (2)
3700:18,21
nonexpert (3)
3659:21;3660:21;
3672:22
nonparticipants (6)
3662:24;3663:14;
3683:23;3684:7,22;
3754:4
nonparticipating (3)
3683:14;3684:16;
3686:5
nonrounded (1)
3694:20
noon (1)
3786:15
nor (2)
3742:15;3746:6
normal (1)
3680:8
note (1)
3785:4
Noticed (1)
3693:4
number (30)
3656:17;3658:22,24;
3660:17;3661:2,2;
3663:18,19;3667:17;
3681:12;3687:16;
3689:11,13;3701:9;
3703:23;3704:18;
3705:11;3711:14;
3712:18;3715:2;
3716:1;3719:12;
3722:22;3723:15;
3727:4,9;3730:8;
3754:14;3759:13;
3770:15
numbered (1)
3658:21
numbers (4)
3689:2;3691:7;
3695:17;3720:2
nuts (1)
3700:16
nutshell (1)
3724:3

O

oath (4)
3680:7;3709:8;
3758:15,16
object (7)
3716:5;3746:8,9,13;
3748:7,7;3761:13
objected (1)
3761:13
objecting (2)
3675:13,14
objection (35)
3652:21;3654:3,5;
3667:1,7;3669:12,15;
3671:20;3672:3;
3675:19;3677:14;
3708:14;3711:17;
3724:10;3726:14,21;
3728:24;3744:14;
3745:8,19;3746:19,21;
3747:2,8,23;3748:2,24;
3749:3,8,23;3778:9;
3780:3;3782:13;
3783:3,8
objections (3)
3667:5;3671:7;
3678:9
observation (2)
3714:5;3772:24
observations (2)
3740:24;3767:5
obvious (1)
3770:7
obviously (2)
3678:24;3772:7
occur (8)
3660:22;3699:20;
3703:8;3746:24;
3749:17;3762:14;
3764:22;3779:22
occurred (5)
3670:6;3723:18;
3745:3,5;3753:13
occurrence (1)
3734:10
occurring (3)
3730:1;3747:21;
3748:17
occurs (2)
3688:10;3750:7
o'clock (3)
3707:10,15;3777:12
octave (1)
3784:2
off (8)
3688:3;3693:1;
3695:13,15;3732:6;
3784:21;3786:17;
3787:2
offer (1)
3718:7
office (1)
3695:2
oftentimes (1)
3732:11
once (2)
3693:13;3719:24
one (122)
3653:20;3655:10;

3656:18;3657:1;
3658:11,24,24;
3660:15,17,18;3661:2,
13;3662:15;3663:18;
3664:5,7,19;3665:7,7,
10;3666:8;3667:14,18,
21;3668:3;3669:13,14,
14;3670:21;3671:17;
3674:5,15,21,21;
3675:12;3677:13;
3681:22,23;3682:17;
3684:3;3687:10;
3688:18,18,21,24;
3689:1,6;3690:6,8,12,
15,24;3698:8;3707:12;
3713:3;3715:18;
3717:12,15;3718:11;
3719:14;3720:7,10;
3721:13;3722:22;
3723:7,12;3724:14,23;
3725:2,22;3726:9;
3727:4,24;3729:6,22;
3732:3,24;3733:2,10;
3736:10,12,14;
3737:12;3739:8;
3741:6,18;3749:17;
3751:7,21,23;3752:15;
3753:12;3755:8,23;
3757:11,23,24;3758:3,
23;3759:13,18;
3760:22;3761:3;
3763:15;3766:21;
3767:24;3768:3,5,10;
3769:15;3770:15;
3772:8,9,24;3773:12,
13,24;3774:24;3775:1;
3777:5;3785:5;
3786:10

ones (8)
3671:4,12,15;
3676:15;3684:5;
3723:10;3754:9,10

one-tenth (1)
3687:21

only (21)
3659:1;3677:10;
3688:17,18,24;
3699:20;3703:12;
3705:21;3706:5;
3708:10;3713:20;
3723:20;3739:23;
3745:4;3746:3;3758:4;
3760:13;3763:10;
3771:5,6;3785:9

Ontario (7)
3715:7,15,19;
3716:8,9,9;3717:11

open (1)
3751:4

operating (7)
3666:9;3693:14;
3739:7,12;3762:5;
3779:13;3786:2

operation (6)
3666:4;3719:15;
3738:21;3741:2;
3742:2;3763:4

operations (9)
3714:8;3738:12,14;
3739:1,22;3761:5;
3784:14;3785:18;
3786:7

opinion (34)
3659:11,18,21;
3660:21;3662:20,22;
3665:13,17;3668:3;
3670:9,15;3672:14,16;
3674:18;3675:3,6;
3676:3,4;3696:6;
3697:20;3709:16;
3715:14,15,18;
3716:14;3725:15;
3751:17;3767:10,20;
3782:10;3783:15,18,
21;3785:1

opinions (18)
3659:10;3660:12,13,
15;3665:4;3667:24;
3671:10,11;3714:13;
3715:8,13,15;3716:24;
3717:9,18,20;3722:10;
3747:10

opportunities (1)
3780:12

opportunity (7)
3681:19;3701:23;
3704:9;3706:11;
3727:12;3732:3;
3746:13

Opposed (1)
3788:11

opposing (4)
3703:1,2;3705:14;
3706:17

opposite (3)
3721:4;3773:19;
3774:10

opposition (3)
3703:21;3704:10;
3720:1

option (1)
3654:19

orange (2)
3740:12,16

order (9)
3655:9;3674:4;
3680:8;3682:11;
3683:21;3704:2,20;
3739:10,11

original (1)
3754:9

originally (3)
3755:19;3757:21;
3759:4

others (11)
3672:23;3680:10;
3711:21;3714:15;
3716:17,22;3720:17;
3732:23;3736:5;
3752:13;3760:15

ought (1)
3770:3

ourselves (1)
3687:23

out (49)
3658:1,2;3663:17;
3668:20;3669:4;
3670:19;3671:12,20;
3673:5;3677:11;
3687:22;3688:16,18;
3689:19;3693:17,21,
24;3695:20;3696:10,
15;3697:12;3698:22;
3706:19;3707:8;
3709:21;3713:24;
3714:24;3719:13;
3731:9;3732:10;
3741:11;3747:5;
3750:19;3751:5;
3752:1;3755:7;
3758:24;3764:20;
3768:2;3774:6,7;
3775:23;3783:23;
3784:8;3785:8;
3786:17,20;3787:1,20

outcome (2)
3697:21;3769:17

output (5)
3695:22;3739:9,11;
3742:12;3765:7

outputting (1)
3786:24

outside (1)
3772:2

over (18)
3658:5;3666:18;
3667:20;3677:18;
3685:24;3687:18;
3690:5,6;3696:13;
3699:3;3711:5;
3720:14;3741:20;
3754:17;3762:23;
3764:11;3768:10;
3774:24

overall (1)
3676:1

overpredicting (2)
3779:21;3781:6

oversaw (1)
3694:24

overseeing (1)
3695:8

owls (1)
3693:5

owl's (1)
3693:4

own (7)
3662:20;3705:1;
3726:22;3728:2;
3778:10,15;3782:24

P

Pacific (2)
3743:16,17

page (20)
3658:22;3675:12,20;
3676:1,6;3683:5;
3685:14;3686:19;
3712:19;3713:8;
3738:1,2;3739:5,24;
3740:1,4,17,22;
3763:20,20

pages (11)
3658:21;3667:22;
3669:20;3676:8,9;
3683:10;3684:9;
3690:2,15;3776:17;
3779:11

pain (2)
3731:5;3768:20

paper (7)
3706:9;3724:16;
3725:9;3734:12,14;
3737:18;3783:6

papers (1)
3774:5

paragraph (9)
3671:18,18;3672:5,
7,24;3673:4,24;
3674:13;3676:19

parcel (2)
3691:24,24

part (14)
3657:10;3658:8,20;
3659:2,3;3667:12;
3709:8;3714:14;
3716:14;3722:24;
3743:7;3763:15;
3771:18;3779:9

participated (3)
3724:17,22;3725:6

participating (4)
3683:13;3684:16;
3686:4;3726:2

particular (19)
3681:21;3706:20;
3707:13;3714:6;
3715:12;3718:4;
3719:14;3720:9;
3724:15;3728:3;
3734:14;3745:15;
3748:19;3757:17;
3758:20;3765:13;
3769:4;3778:3;
3779:10

parties (15)
3654:15;3703:2,3,9,
12,21;3704:3,4,8,10,
23;3705:1,9,21;3706:5

partly (1)
3735:20

parts (6)
3677:21,21,22;
3698:17;3720:14;
3778:1

party (4)
3704:18;3705:14,16;
3706:18

Parzyck (2)
3654:2;3776:20

Pass (1)
3754:13

past (4)
3708:5,22;3712:9,10

patient's (1)
3718:19

Patrick (3)
3707:20,22;3708:1

pattern (1)
3739:4

Paula (1)
3768:15

peer-reviewed (10)
3719:10;3720:4;
3724:5,9,21;3725:10;
3726:1,7;3748:15;
3758:18

pending (1)
3745:8

people (47)
3659:9;3661:10;
3664:23;3688:17;
3700:23;3701:19;
3712:18;3713:24;
3714:1,5;3717:8;
3728:15;3730:2,5,11;
3732:22;3733:10,15;
3735:17,21,22;3736:2,
3,4,10;3742:10;
3746:15;3747:7;
3749:19;3750:14,16;
3751:3,17,19;3752:15;
3757:2;3759:14;
3765:7;3767:13,14;
3769:3;3771:13;
3772:24;3773:20;
3784:7,11,22

per (4)
3656:21;3728:8;
3739:14;3784:17

perceived (1)
3733:4

percent (11)
3664:21;3696:11;
3739:10,11;3741:7;
3765:7,20;3784:16;
3786:3,8;3787:2

percentage (1)
3735:17

percentages (1)
3732:5

perceptions (1)
3718:19

Perfect (1)

3712:15
period (4)
3714:6;3733:9;
3746:5;3774:9
person (21)
3670:2,16;3700:24;
3701:4,6;3722:23;
3723:2;3731:24;
3732:14;3736:14,16;
3751:23;3757:24;
3768:5,6;3769:16;
3770:12;3772:15;
3773:1,2;3786:14
personal (1)
3696:6
persons (1)
3723:12
person's (3)
3722:11;3766:10,17
perspective (2)
3710:4,18
pertinent (2)
3672:19;3673:2
PhD (1)
3783:12
phenomenon (3)
3720:5;3721:12,20
Phil (4)
3656:23;3666:20;
3672:10;3674:22
physical (4)
3757:14,19;3770:13;
3782:22
physically (1)
3695:11
physician (4)
3751:14;3756:22,23;
3757:3
pick (2)
3700:18,23
Pierpont (5)
3715:5;3716:17,21,
22;3757:1
Pierpont's (1)
3716:19
place (6)
3707:9;3708:9,14;
3747:1;3762:12;
3770:19
placebo (5)
3721:5,5;3772:17;
3773:19;3774:10
placement (1)
3755:4
placements (1)
3752:21
places (5)
3752:24;3753:2,12;
3754:2,5
plant (3)
3786:16,17,24
play (1)
3772:2
Pleasant (23)
3652:7,7;3653:24;
3654:11;3657:11;
3660:19;3661:4;
3663:16;3665:16;
3668:15;3672:1;
3675:17;3680:18;
3691:3;3697:12,17;
3715:20;3716:4;
3720:18;3721:23;
3725:18,24;3734:3
please (14)
3652:3;3653:13;
3705:7;3717:4,6;
3733:23;3749:2,9,12;
3756:7;3764:10;
3776:13;3783:8;
3787:18
pleasure (1)
3757:24
plus (4)
3668:19,23;3740:19;
3780:18
pm (6)
3652:1;3707:4,4;
3786:1,5;3788:12
point (29)
3653:20;3654:11;
3655:2;3663:20;
3671:12,20;3673:5,9;
3675:19,24;3676:20;
3682:2;3690:24;
3692:13;3713:12;
3720:6;3723:17;
3729:4,20;3732:6;
3740:23;3741:10;
3748:14;3755:7;
3770:8,11;3771:20;
3775:15;3780:18
pointed (2)
3758:24;3764:20
pointing (1)
3671:12
populated (1)
3654:14
population (2)
3754:19,19
portend (1)
3735:3
portion (6)
3660:9;3666:14;
3679:24;3702:3;
3706:20;3772:12
portions (4)
3665:19;3677:6,20;
3678:10
position (7)
3655:3,13;3662:9,
12;3734:17,21;3739:4
positive (2)
3774:1,2
possibility (2)
3766:13;3774:2
possible (5)
3692:20;3696:4,5;
3770:18;3773:23
possibly (4)
3669:21;3678:18;
3697:5,21
power (6)
3688:5;3739:9,10,
13;3765:6;3786:17
powerful (1)
3770:4
PowerPoint (1)
3653:6
predict (2)
3701:1;3779:20
predicted (11)
3661:5;3662:24;
3663:1,14;3667:4;
3685:3;3686:4;
3690:11;3697:12,14;
3701:11
prediction (1)
3668:18
predictions (3)
3660:18;3661:3;
3781:3
predicts (2)
3697:13;3701:2
preexisting (3)
3724:2;3731:14,23
preliminary (1)
3677:4
prepared (1)
3678:4
present (7)
3656:8,9;3675:3;
3703:14,17;3704:11;
3706:7
presentation (14)
3656:3,5,21;3657:5,
6;3666:15;3678:5,7;
3703:10;3719:11;
3720:16;3745:23;
3746:5;3776:24
presented (11)
3652:21;3703:9;
3705:13,18;3706:17;
3707:22;3718:3;
3743:7;3755:2;
3771:24;3772:5
presents (2)
3703:24;3704:19
pressure (7)
3732:12;3737:21;
3738:5;3759:24;
3768:17;3770:7;
3772:19
pretend (1)
3735:3
pretty (3)
3693:21,23;3736:6
previous (3)
3677:9;3685:6;
3709:7
previously (7)
3654:17;3680:6;
3681:10;3691:4;
3694:9;3703:13;
3706:6
principally (1)
3671:4
print (2)
3690:3;3694:20
prior (4)
3685:8;3703:6;
3723:18;3776:9
privacy (1)
3751:14
privy (1)
3745:14
Pro (1)
3695:7
probability (1)
3672:20
probably (3)
3706:13;3753:4;
3758:3
problem (7)
3658:9,13;3659:20;
3675:2;3678:23;
3726:23;3785:14
problems (4)
3730:14;3731:22;
3756:17;3785:5
procedural (1)
3715:9
procedure (3)
3702:15,23;3703:2
Procedures (3)
3702:14,20,22
proceed (1)
3678:16
proceeding (8)
3656:13;3659:23;
3674:20,21;3711:20;
3714:20;3720:17;
3750:13
proceedings (9)
3682:7;3714:16,24;
3715:2,3;3716:15;
3717:10,17;3718:1
process (7)
3679:21;3709:1,8;
3730:7;3780:8,16;
3787:24
processes (1)
3688:19
produce (4)
3705:7;3706:9;
3759:19;3782:22
produced (4)
3685:17;3694:15,21;
3708:3
Professionally (1)
3697:19
program (1)
3689:11
prohibitive (1)
3692:23
Project (11)
3652:8;3675:17;
3690:8;3696:10;
3697:10;3701:9;
3715:23;3753:9;
3763:8;3779:13,13
projects (2)
3666:10;3696:15
promised (1)
3679:10
proof (12)
3656:20;3657:14,16;
3672:15;3710:6,9,12;
3711:12;3718:7;
3734:6;3781:23;
3782:21
proper (1)
3659:14
properties (3)
3686:11,22;3687:3
property (19)
3656:19;3659:1,5;
3660:20,23;3661:2,5,7,
9,10;3662:19;3676:3;
3691:9,13,15,20,21,23;
3692:11
propose (1)
3678:6
propriety (1)
3665:13
Protection's (1)
3725:7
prove (5)
3659:5;3662:18;
3672:20;3766:18,21
proven (1)
3670:4
provide (6)
3659:10;3662:17;
3664:12,16;3665:4;
3727:22
provided (3)
3654:16;3659:11;
3787:17
provides (4)
3655:22;3710:5,12;
3781:23
pro-wind (3)
3770:14;3772:15;
3773:2
psychiatric (1)
3774:8
psychogenic (1)
3718:18
public (2)
3722:4;3748:17
publication (1)
3719:16
published (7)
3720:4;3725:10;

3726:3,7;3748:15; 3758:18;3767:4
pulled (1)
3663:6
Punch (20)
3710:5,11;3712:5,6, 6;3714:19;3716:6,13; 3717:7;3718:1,17,22; 3747:11;3781:22; 3782:11,14,17,19; 3783:2,11
Punch's (3)
3714:12;3781:16; 3782:10
pure (3)
3657:22;3661:12; 3665:17
purely (1)
3667:24
purport (1)
3665:3
purported (5)
3656:8,9;3673:19, 19;3724:6
purporting (3)
3660:21;3662:3; 3669:16
purports (3)
3658:14;3660:12; 3671:22
purpose (2)
3745:4;3747:6
purposes (1)
3659:6
put (19)
3657:12,12;3658:4; 3695:18,21,23,24; 3711:9;3717:7,15; 3746:24;3748:23; 3749:18,21;3750:8,10; 3754:10,10;3759:5
puts (1)
3669:4
putting (6)
3688:13,18,21,24; 3698:22;3786:17

Q

QA (1)
3694:24
qualifications (1)
3669:24
qualified (8)
3656:11;3658:12; 3659:8;3660:15; 3661:23;3665:18; 3671:10,11
qualify (4)
3663:2;3672:2; 3703:19;3704:13
qualities (2)
3669:18,22
quality (1)
3694:24
quarter (2)
3698:7;3700:17
quarterback (1)
3695:16
quick (2)
3687:11;3764:7
quickly (2)
3718:8;3777:20
quiet (2)
3693:5;3785:11
quieter (1)
3700:2
quit (1)
3748:8
quite (2)
3681:13;3712:24
quote (4)
3657:6;3738:13; 3753:1;3783:20
quoting (1)
3657:24

R

racing (2)
3737:22;3738:6
radiation (1)
3731:3
raise (2)
3666:13;3749:4
raised (4)
3724:15;3780:11,14, 16
ran (1)
3694:22
Rand (8)
3662:5;3666:10; 3667:3;3673:6,21,21; 3675:7;3708:15
random (1)
3713:24
Rand's (1)
3655:24
range (1)
3682:10
rated (1)
3764:23
rather (5)
3679:18;3689:15; 3741:4,20;3776:10
ratings (2)
3742:4;3765:4
read (13)
3661:14;3702:11,12; 3711:22,23;3712:4; 3724:24;3729:11; 3762:21;3763:12,14, 20;3786:21
reading (1)
3737:24
readings (2)
3696:5,5
ready (1)
3682:20
real (6)
3687:11;3711:1; 3770:13;3779:12; 3780:1;3781:1
reality (1)
3781:9
really (25)
3653:20,21;3665:24; 3676:21;3677:15; 3685:16;3688:6; 3694:6;3695:5; 3699:24;3711:11; 3712:10,22;3719:24; 3720:3;3721:2;3730:7; 3732:19;3750:2; 3762:13,15;3767:20; 3768:2;3769:15; 3770:3
reason (10)
3654:22;3699:6; 3701:7;3707:10; 3727:1;3750:18,22; 3751:7;3760:13; 3772:21
reasonable (4)
3655:15;3678:15,19; 3696:18
rebut (5)
3703:6;3706:11; 3718:2;3728:2; 3778:16
rebuttal (41)
3680:1;3702:2,14, 15,23,23;3703:3,7,10, 14,16,18,24;3704:7,15, 17;3705:5,11,20; 3706:7,13,15;3709:1,4; 3717:21;3718:4; 3724:11;3727:10,22; 3728:9;3744:15; 3747:15;3755:3; 3760:10;3761:19; 3772:11,13;3777:16; 3780:4,12;3787:23
rebutted (2)
3705:14;3706:18
rebutting (3)
3706:20;3724:12; 3778:10
recall (8)
3671:6;3718:21; 3719:5;3740:11; 3752:3,5,7,8
receive (1)
3688:8
received (3)
3685:7;3778:5,7
receives (1)
3688:5
receiving (5)
3661:7,15,17,17; 3773:21
receptor (3)
3661:8;3778:3; 3779:10
receptors (2)
3690:18;3779:12
Recess (2)
3707:4;3788:3
recognize (1)
3725:20
recognized (3)
3734:10;3766:2; 3767:8
reconcile (1)
3731:21
reconsider (1)
3674:8
record (16)
3653:6,9;3654:7; 3656:2;3664:22,23,24; 3666:16;3668:11; 3675:6;3685:21; 3690:20;3708:13,14; 3718:10;3783:11
recorded (1)
3760:23
recordings (1)
3759:23
records (1)
3723:14
re-create (1)
3759:7
reduce (2)
3690:10;3692:20
reduces (1)
3693:1
reduction (1)
3670:10
reference (4)
3660:9;3674:12; 3709:20;3724:16
referred (3)
3680:23;3715:18; 3726:5
referring (1)
3740:18
refers (1)
3671:18
reflect (1)
3715:15
refute (2)
3703:20;3704:14
refuting (1)
3716:9
regard (3)
3653:23;3681:21; 3687:8
regarding (24)
3656:1,9,19,20; 3659:21;3660:6,13; 3661:23;3665:13; 3674:19;3675:7; 3676:3;3677:20; 3691:10;3714:13; 3716:14;3724:6; 3727:18;3746:7; 3747:10;3760:7; 3781:17;3783:16,19
Regardless (1)
3778:19
regards (2)
3655:4;3727:23
regs (2)
3658:3,3
regular (1)
3707:11
regulation (3)
3658:10;3691:16,18
regulations (1)
3662:2
regulatory (1)
3701:8
rehabilitation (1)
3704:16
rejected (1)
3715:8
relate (1)
3674:12
related (2)
3675:15;3741:3
relates (3)
3671:19;3673:10; 3734:11
relation (2)
3712:21;3755:10
relationship (7)
3671:2;3708:5,10, 20;3710:6;3776:9; 3777:22
relationships (1)
3708:22
relevance (1)
3746:9
relevant (2)
3656:13;3659:22
reliance (1)
3674:13
relied (4)
3716:17,19;3717:23; 3747:11
relies (2)
3716:14;3717:8
rely (3)
3671:22;3673:19; 3712:6
relying (1)
3717:18
remain (1)
3666:16
remainder (1)
3752:16
remedy (1)
3670:5
remember (9)
3657:9;3671:8;

3744:5,6;3751:24; 3752:12,13;3758:11; 3771:3
remind (8) 3666:10;3680:5; 3708:1;3709:7;3755:1, 1;3761:19;3772:11
reminder (2) 3682:5;3787:8
render (3) 3662:21;3671:10,11
repeat (2) 3672:9;3779:8
repeatable (1) 3770:20
reply (1) 3761:1
report (41) 3655:24;3656:1; 3673:6,22;3675:22; 3694:10,18;3707:20, 23;3708:2,2,8,9,11,15, 21,23;3709:21,24; 3710:3;3711:22,23; 3712:13;3713:5,11,11; 3724:24;3725:3; 3727:17;3728:19; 3739:21;3740:1; 3741:24;3742:10; 3765:10,14,16; 3783:10,22;3784:13,24
reported (17) 3713:6;3723:8,13; 3730:4;3732:7;3736:8; 3741:22;3756:21; 3782:4;3784:8,11; 3785:24;3786:2,6,11, 15,19
reporting (4) 3723:4,21;3759:12; 3784:22
reports (3) 3739:24;3767:22; 3776:8
report's (1) 3725:14
represent (1) 3696:7
represented (7) 3703:15;3704:3,4, 23;3705:2,21;3775:12
represents (2) 3697:20;3775:8
require (4) 3670:16,17;3748:23; 3749:21
required (5) 3670:10,13,13; 3696:14;3727:9
requirement (1) 3660:20
requirements (5) 3656:18;3660:6,22; 3661:1;3691:11
requires (1) 3659:22
research (5) 3724:24;3758:24; 3759:1;3766:22,22
researched (1) 3771:2
researcher (1) 3759:3
researchers (2) 3693:6;3725:2
reserve (2) 3680:9;3682:7
reserved (1) 3681:3
residence (14) 3659:1,2,2;3685:1,4; 3686:5;3690:7,10,11; 3691:9;3692:8; 3693:15;3698:7; 3778:5
residences (6) 3667:20;3690:17; 3692:21;3699:1; 3721:1;3753:20
resident (2) 3670:9;3786:13
residential (2) 3659:7;3661:21
residents (17) 3662:23;3663:13; 3670:18;3683:14; 3684:17;3710:14; 3741:11,12,18;3742:2; 3760:23;3761:3,12; 3762:3;3782:1,23; 3786:11
residents' (1) 3740:23
respect (4) 3662:5;3680:17; 3699:12,13
respond (17) 3655:11;3656:17,24; 3664:6;3674:1;3678:4, 5,6;3703:20;3704:14; 3712:2,5,6;3716:12; 3736:19;3757:21; 3763:10
responding (2) 3658:22;3667:7
response (7) 3655:20;3669:14; 3684:23;3716:9; 3750:23;3778:17; 3780:13
responses (1) 3727:3
responsible (1) 3695:17
rest (2) 3664:18;3736:19
rests (1) 3705:5
result (4) 3663:21;3690:3; 3713:19;3722:7
results (12) 3663:1;3666:9; 3687:20;3694:15,19, 21;3695:6,10,24; 3696:2;3713:9; 3729:21
review (6) 3652:6;3665:22; 3715:7,19;3716:7; 3781:16
reviewed (8) 3677:3;3709:24; 3716:4,7;3722:13; 3730:21;3781:19,20
reviews (1) 3666:9
Richard (1) 3652:13
ride (1) 3731:15
Ridge (32) 3652:7,8;3653:24; 3654:11;3657:11; 3660:19;3661:4; 3663:16;3665:15,16; 3668:16;3671:23; 3672:1;3675:14,15,17; 3680:18;3691:4; 3697:7,12,17;3715:20; 3716:4;3720:18; 3721:23;3725:18,24; 3734:3;3760:22; 3762:4;3763:2;3781:5
right (114) 3652:16;3653:15,22; 3654:6,10;3655:14; 3657:3,11,15;3658:1,2, 23;3659:12,18;3660:5; 3663:11;3665:6; 3667:9;3670:18; 3672:12;3673:1; 3676:23;3677:23; 3679:4,9;3680:5,9,16; 3681:5,17;3682:1,7,11, 12,19;3684:2;3685:22; 3687:6;3688:17,21; 3689:20,22;3691:2; 3694:2,5,19;3697:19, 24;3701:16,24; 3702:12;3706:3,21; 3707:5,20;3708:17; 3710:2,16;3711:7; 3712:8;3714:18; 3716:3;3717:24; 3718:13;3719:2,9; 3720:22;3722:21; 3724:4;3727:21; 3728:8,11,21;3729:1,3, 4;3732:6;3733:15,18, 20,24;3742:6;3745:9, 18;3746:12;3755:14; 3756:2,4,7;3760:5,6, 15;3761:18,24;3764:3, 4;3771:9;3774:22; 3775:14,17,19;3776:6, 14,21;3777:14,15; 3781:10;3782:15; 3783:9,23;3787:6,7; 3788:5,8
ringing (4) 3732:11;3737:22; 3738:5;3770:18
Roberts (28) 3679:17;3709:3,4,6, 10,11,13,19;3710:24; 3712:8;3716:13; 3722:13;3729:2,5,9; 3733:21;3734:3; 3738:19;3739:20; 3745:22;3748:9,10; 3754:24;3756:4; 3768:9;3775:15,17; 3781:22
Robert's (1) 3761:16
rocket (1) 3663:10
roll (2) 3652:2,8
room (7) 3663:1,3,8;3730:6,7; 3733:16;3751:15
root (2) 3769:7;3774:1
round (3) 3687:18,20;3689:13
rounded (1) 3694:20
rounding (5) 3687:12,23;3688:2, 6,9
rule (6) 3666:13;3671:9,9; 3678:3;3703:23; 3778:13
ruled (7) 3655:23;3673:17,18; 3674:8,10,16;3677:14
rules (7) 3656:12;3680:2; 3702:9;3706:1;3728:8; 3778:20;3779:4
ruling (8) 3656:4;3660:3; 3662:5;3671:15; 3676:21;3783:7; 3787:12,13
run (1) 3695:3
running (2) 3695:7;3696:22
runs (2) 3680:20;3681:24

S

safe (1) 3766:17
safety (1) 3668:15
sake (1) 3706:13
Salt (1) 3734:24
Salt's (3) 3734:16,17,21
same (25) 3655:5;3664:1,2; 3668:16;3672:1,8; 3675:17;3677:5; 3684:23;3686:18; 3693:11;3694:21; 3695:3,4;3697:16; 3698:21;3720:11; 3721:2;3741:15; 3748:24;3749:3; 3759:19;3781:21; 3783:11;3784:4
sampling (1) 3696:18
San (1) 3715:11
sat (3) 3663:4;3670:2; 3744:8
save (1) 3710:4
saw (5) 3723:17;3724:24; 3725:16;3726:18; 3744:11
saying (28) 3661:3,5;3662:11; 3664:2;3670:12; 3672:14,14;3700:22; 3708:13;3730:18,22; 3731:22;3740:9; 3752:9,12;3757:5,12; 3758:16;3764:16,18; 3769:3,9,11,13,14; 3776:12;3779:14; 3780:24
scale (2) 3718:24;3720:11
scenario (4) 3736:13;3749:18; 3763:5,9
scenarios (1) 3739:7
scheduled (1) 3707:8
Schomer (1) 3665:14
school (4)

3682:12;3704:3,21; 3733:19
SCHOPP (3) 3652:4,11,13
science (6) 3715:16;3723:1; 3725:13;3766:18,23; 3767:6
scientist (1) 3663:10
scope (8) 3705:4;3744:14; 3745:8;3747:2; 3749:10,23;3761:14; 3780:4
scrutinize (1) 3787:19
seat (1) 3731:16
second (9) 3662:16;3668:10; 3683:5;3732:21; 3739:14;3757:11; 3765:17;3784:17; 3788:7
Secondly (1) 3713:5
seconds (1) 3788:9
Section (6) 3657:7;3658:1,10, 15;3740:22,23
seeing (2) 3720:12;3723:7
seeking (2) 3739:8;3784:15
seem (1) 3678:20
seems (5) 3655:15;3678:14,15, 19;3692:21
selection (5) 3713:23,23;3714:10; 3729:9;3730:9
self-selection (1) 3735:19
sensation (19) 3712:23;3713:8; 3737:20,22;3738:4,6; 3740:5,24;3741:3,13, 19;3742:3;3743:5; 3763:19;3764:9,14; 3784:8,9,10
sensations (17) 3710:7;3713:10,14; 3729:23;3730:4; 3737:10,15;3738:13; 3739:17,21;3740:6; 3750:15;3767:11; 3783:17,20;3784:12; 3785:19
sense (3) 3699:9;3729:14; 3776:13
sensitive (2) 3731:15;3733:10
sensitivity (1) 3731:18
separately (1) 3741:1
serrated (1) 3693:7
serrations (2) 3693:3,5
set (5) 3684:11;3694:23; 3731:10;3780:12; 3787:16
setback (1) 3671:2
settle (1) 3776:24
seven (3) 3707:10,14;3777:12
several (5) 3658:5;3667:19; 3679:6;3716:16,22
severe (4) 3732:9;3741:22; 3784:9,9
severity (7) 3739:5;3742:3,11; 3764:23,23;3765:4; 3786:20
Severson (1) 3653:1
shake (1) 3668:10
shaking (1) 3718:9
shall (9) 3703:13,17,18,24; 3704:11,12,19; 3705:17;3706:6
shape (3) 3693:2;3755:3; 3782:6
shared (1) 3710:9
shot (2) 3665:7,7
shots (1) 3776:12
show (7) 3670:10;3674:23; 3711:12;3721:17; 3777:24;3778:2; 3779:11
showed (1) 3722:23
showing (1) 3765:4
shown (6) 3696:2;3705:24; 3765:24;3766:9,15; 3783:22
shows (6) 3713:5;3719:24; 3725:12;3758:16; 3780:24;3781:5
shut (1) 3760:24
sick (1) 3731:15
sickness (2) 3722:1;3732:4
side (2) 3709:14;3740:19
sides (4) 3676:24;3677:3,17; 3702:6
significant (8) 3688:12,14,16,22,24; 3689:1,6;3741:13
similar (3) 3678:15;3697:11; 3768:23
Simon (1) 3721:2
simple (3) 3663:4,8,9
simply (2) 3655:18;3708:3
simulate (1) 3759:24
simulated (1) 3760:1
sit (3) 3702:1;3753:18; 3768:1
sites (1) 3765:13
sitting (1) 3771:13
situation (5) 3673:21;3720:13; 3734:8;3739:12; 3762:10
situations (1) 3759:15
Six (6) 3705:4;3712:17; 3713:17;3714:1; 3723:24;3729:10
sixth (1) 3738:2
six-year-old (1) 3771:21
SLAGEL (14) 3690:23;3760:17,17, 19;3761:21,24;3762:1, 20,23;3763:1,21; 3774:16,17,21
slate (1) 3756:22
sleep (4) 3712:21;3766:6,11; 3785:13
slide (18) 3656:22;3657:5,6; 3658:1,8,13,17,18,22; 3662:14;3664:1,7,8; 3669:10;3670:3; 3671:21;3672:3; 3715:2
slides (9) 3660:11;3662:3; 3665:19;3666:24; 3667:2,21;3669:19; 3670:22;3672:8
slowing (1) 3765:20
small (5) 3685:16;3689:15; 3690:3;3694:6,20
smoked (1) 3731:4
so-called (2) 3709:21;3785:19
Society (1) 3675:5
software (5) 3687:19,24;3694:22; 3695:4,7
software's (1) 3688:1
sole (1) 3705:6
solely (1) 3659:5
solid (1) 3764:16
somebody (6) 3689:11;3700:10; 3758:22;3767:19; 3787:20,20
somebody's (1) 3674:18
somehow (3) 3661:7;3716:8; 3717:21
someone (16) 3658:12;3662:20; 3663:23;3664:11; 3667:24;3674:24; 3675:4,4;3693:22; 3695:13;3696:10; 3730:13;3731:13; 3750:6;3767:18,20
someone's (1) 3729:16
someplace (1) 3689:10
sometimes (2) 3696:14;3742:10
somewhat (2) 3708:3;3748:12
somewhere (3) 3661:8;3750:14; 3762:19
son (4) 3768:20,22;3771:20, 21
soon (1) 3736:14
sorry (14) 3669:8;3674:2,15; 3676:16,18;3685:16, 17;3689:4;3694:16; 3700:19;3707:7; 3711:6;3742:17; 3743:15
sort (11) 3710:22;3720:13; 3725:14;3733:5; 3743:11;3748:18; 3749:14;3757:5; 3771:9,11,16
sorted (1) 3677:11
sorts (3) 3656:10;3710:21; 3723:12
sound (19) 3663:1;3668:24; 3687:19;3691:11; 3692:21;3693:1; 3696:24;3698:10,12; 3699:23;3700:22; 3733:4;3757:23,23; 3759:7,14;3762:7; 3763:15;3765:19
sounds (2) 3700:9;3759:2
source (4) 3668:24;3699:5; 3741:2;3766:5
sources (1) 3712:11
southern (1) 3715:11
speak (4) 3656:8;3711:1; 3745:11;3756:7
speaking (1) 3785:13
speaks (1) 3675:16
special (2) 3657:17,19
specializes (1) 3756:23
specific (10) 3658:8;3681:1; 3718:5;3721:22; 3745:12;3753:15; 3758:2;3769:4; 3772:12;3785:17
Specifically (10) 3656:14;3668:5; 3669:2;3675:16; 3720:15;3752:2,18; 3757:22;3771:7; 3777:23
specifics (1)

3784:21
spectrum (1)
3701:12
speed (1)
3671:6
spell (1)
3706:19
spit (1)
3695:20
spits (1)
3687:22
splitting (1)
3689:15
spoke (5)
3667:23;3681:10;
3719:6;3745:12,15
spoken (2)
3681:12;3718:14
spot (1)
3733:10
spreadsheet (1)
3695:1
staff (6)
3701:15;3704:5;
3705:3,8;3775:16,17
stand (1)
3762:18
standard (4)
3659:14;3680:23;
3682:17;3690:13
standards (3)
3657:19;3681:23;
3751:14
standing (1)
3741:21
standpoint (1)
3710:20
Stantec (3)
3694:13,14;3695:3
start (11)
3657:4;3676:15;
3694:16;3708:24;
3730:14;3739:9;
3765:19;3776:3,22;
3783:23;3784:15
started (6)
3720:1;3744:11,12;
3745:20,21,24
starting (1)
3765:6
starts (4)
3676:17;3688:19;
3699:3;3741:11
start-up (1)
3741:7
stated (4)
3668:15;3697:4;
3710:11;3781:22
Statement (23)
3653:24;3654:12,16,
20,20;3657:22,23;
3661:12,13;3663:12;
3664:11;3676:2,11,13;
3681:11;3710:8,14;
3755:7,11;3764:13;
3765:23;3782:1;
3783:2
statements (2)
3658:13;3663:9
states (2)
3670:7;3754:10
statistical (3)
3742:16,18;3765:1
status (2)
3653:16,24
statute (6)
3657:12,13;3658:2,
2;3659:12;3661:14
stay (2)
3683:12;3755:2
step (1)
3685:22
Steve (1)
3773:14
Steven (1)
3765:16
Sticking (1)
3714:12
still (4)
3672:7;3680:6;
3691:8;3709:8
stop (3)
3669:9;3760:6;
3772:10
stopping (1)
3765:6
strain (1)
3769:11
strained (1)
3685:18
Strawn (1)
3756:9
stress (1)
3681:18
stricken (4)
3656:1;3667:12,13;
3677:2
strike (6)
3659:17;3673:23;
3674:9;3678:11,18;
3746:9
strikes (1)
3679:2
striking (1)
3679:1
struck (1)
3673:22
struggling (1)
3700:19
studies (4)
3710:21;3719:10,12;
3758:21
study (51)
3710:5,11;3711:13;
3712:20,20;3714:3,11;
3719:14;3720:23;
3721:23;3722:3,8;
3724:5,22;3725:7,15;
3726:1,22;3728:5;
3729:10,12,15;3735:4,
7,9,9,10,12;3737:11;
3742:15,21,24;3743:1;
3753:23;3754:6;
3759:5;3760:22;
3761:3;3763:3,13;
3764:15;3766:7;
3781:13,17,19,20,23;
3782:4,21;3783:16,18
SU-7-14 (1)
3652:7
subject (11)
3665:18;3671:21;
3672:2;3686:16;
3687:4;3704:1,20;
3721:22;3722:3;
3724:15;3727:17
subjects (3)
3656:7;3660:16;
3681:1
submitted (7)
3691:5;3703:13,21;
3704:7,15;3706:6;
3707:23
subparagraph (1)
3670:22
Subsequent (1)
3725:5
suddenly (1)
3767:21
suffer (1)
3729:19
suggest (2)
3655:7;3759:9
suggesting (1)
3761:1
summarize (1)
3720:22
summary (4)
3672:13;3738:1;
3739:6;3766:14
summer (2)
3719:7;3745:16
supersensitive (1)
3786:14
supplied (1)
3761:2
supported (1)
3785:5
suppose (2)
3709:12,16
supposed (3)
3661:24,24;3726:15
sure (21)
3665:24;3668:13;
3670:4;3671:16;
3681:8;3682:21;
3683:21;3684:3;
3687:15;3693:21,23;
3695:9;3730:1;
3748:11;3754:12;
3757:8;3759:22;
3775:22;3779:10,10;
3787:19
surpass (1)
3782:5
surprise (2)
3767:17,23
surprised (2)
3715:1;3770:9
surrebut (1)
3703:6
surrebuttal (16)
3702:15,23;3703:2,
8,9,14,16;3704:12,19;
3705:5,11,20;3706:7,
11,14,15
surrebutted (2)
3705:14;3706:18
surrebutting (1)
3706:20
surrounding (1)
3692:1
susceptible (1)
3731:24
sustain (3)
3669:15;3671:3,13
sustained (13)
3666:18,19,24;
3667:5,8;3669:12;
3670:24;3671:4,20;
3672:3,12;3673:9;
3747:9
swap (4)
3693:17,18,21,23
swivel (1)
3709:12
sworn (1)
3680:7
symptoms (28)
3710:13;3713:6;
3723:5,7,9,18;3729:23;
3731:1,7;3732:7,15,17;
3738:21;3739:2;
3744:12,20,22;
3745:22,24;3746:1;
3756:21;3757:6;
3758:2;3759:12,14;
3771:1;3781:24;
3782:23
syndrome (7)
3715:6;3732:18;
3751:20,22;3756:24;
3757:3;3758:4

T

tables (1)
3685:23
tag (1)
3772:2
talk (33)
3658:12;3662:10;
3670:1;3672:6;3698:5,
24;3702:2,2,4,6;
3711:7;3713:16;
3723:6;3726:22;
3729:17;3732:3,16;
3736:3,4;3745:5,13;
3746:14;3748:13;
3750:16;3752:20;
3755:3;3768:1;3771:4,
14;3776:1,18;3783:15;
3787:11
talked (24)
3664:4,5;3667:2;
3715:2;3726:19;
3733:1,13;3737:13;
3741:16;3744:4,16,17,
18,20;3747:3,4,5,6,20;
3748:5;3752:15;
3757:7;3767:13;
3771:23
talking (13)
3666:23;3676:9;
3690:24;3696:13;
3701:11;3719:5;
3734:8;3745:6;
3748:12;3751:1,14;
3766:8;3783:4
talks (4)
3713:9;3721:24;
3734:4;3741:6
Ted (1)
3771:4
tedious (1)
3714:21
teed (1)
3679:17
telling (2)
3662:12;3753:15
temperature (1)
3697:2
ten (4)
3706:1,23;3775:20,
24
tends (1)
3700:7
tense (1)
3772:18
tension (7)
3769:1,1,11,12;
3770:10,11;3772:16
tenth (5)
3688:6,7,9,13;
3689:7
term (6)
3715:6;3752:14,16;
3755:22;3757:1;
3765:21
terminology (1)
3695:14
terms (2)
3655:21;3656:14
terrible (1)
3731:4

test (2)
3759:17;3772:6
tested (1)
3735:21
testified (22)
3655:23;3666:12;
3667:18;3669:7;
3673:7,20;3701:19;
3706:8;3711:19;
3715:4;3716:6,13;
3718:17;3720:17;
3723:23;3727:13;
3750:14,17;3751:6;
3757:7,21;3760:6
testifies (1)
3705:15
testify (16)
3656:11;3661:23;
3664:10;3673:7,22;
3674:19;3712:2;
3717:21;3727:6;
3728:15,17;3740:20;
3743:3;3746:7;
3752:19;3779:1
testifying (7)
3667:1;3673:23;
3708:22;3742:22;
3746:11,11;3748:14
testimony (60)
3652:22;3654:17;
3655:2,24;3656:3,5;
3659:17;3661:9;
3663:19,21;3664:11;
3666:6,11;3668:5,17,
21;3670:3,8;3673:10;
3677:2;3694:9;3703:4,
6,19;3704:13;3705:13;
3706:17;3710:5;
3714:12,14,15;
3715:10;3716:19,19;
3719:3;3720:6;
3722:14;3723:18;
3730:21;3732:15;
3734:17;3740:10;
3744:9;3746:10;
3747:9;3751:5,13;
3755:2;3761:14,17;
3768:16;3770:5;
3772:13;3778:10,15,
18,22;3781:16;
3782:19;3783:4
testing (1)
3712:21
tests (1)
3700:18
that'll (2)
3764:3;3776:24
them-versus-us (1)
3720:13
theoretically (2)
3675:10;3786:14
thinking (1)
3674:5
third (4)
3681:23;3682:17;
3741:18;3784:2
though (7)
3671:5;3688:13;
3689:17;3717:12;
3729:14;3766:14;
3772:4
thought (3)
3689:7;3717:14;
3770:3
thoughts (1)
3677:4
three (16)
3660:11;3662:3;
3680:24;3682:14;
3687:8;3690:8;3695:5;
3699:6,17;3700:6,16;
3703:23;3712:17;
3713:17;3730:5;
3785:22
thrilled (1)
3785:12
throughout (2)
3659:10;3682:6
times (3)
3681:13;3784:7,20
title (1)
3721:24
today (3)
3666:13;3753:19;
3781:15
together (2)
3695:18;3711:9
told (2)
3653:2;3768:23
Tom (2)
3678:2;3718:9
tonight (4)
3652:19;3676:10;
3776:3;3787:23
top (5)
3688:3;3692:14;
3732:6;3740:9,11
total (2)
3690:9;3787:1
Totally (2)
3709:10;3770:23
towards (2)
3730:16;3767:21
tower (1)
3692:14
town (5)
3719:5;3744:3,13,
23;3746:17
trailing (3)
3693:3,10,15
transcript (8)
3660:10;3665:19;
3667:4,22;3669:21;
3674:11;3675:12;
3680:14
transcripts (2)
3677:11;3761:23
treat (2)
3730:24;3732:19
treated (1)
3757:9
treatment (2)
3721:9;3734:10
Tribunal (2)
3715:7,19
tribunals (1)
3748:13
tried (5)
3656:16;3672:4;
3763:20;3784:1,2
true (4)
3746:23;3747:20;
3772:6;3773:19
truly (1)
3711:12
truncate (1)
3689:12
truncating (1)
3688:2
trust (1)
3683:17
try (9)
3681:20;3702:7;
3707:1,2;3712:13;
3729:15;3763:17,18;
3776:11
trying (7)
3655:11;3675:3;
3727:23;3731:20;
3755:7;3762:21;
3771:3
Tule (2)
3715:12,22
T-U-L-E (2)
3715:22,23
tumor (2)
3730:24,24
turbine (53)
3654:9;3669:1,19;
3683:11;3684:12;
3690:6,13,13,14;
3692:8,10,13,15;
3693:11,13,20;
3698:19,22;3712:19;
3713:7;3714:8;3715:6;
3719:15;3731:17;
3732:18;3733:8;
3738:21;3739:1;
3743:18,19,23;
3746:23;3748:22;
3749:16;3750:8,9,20;
3751:20,21;3752:21;
3753:1,4,16;3754:14;
3756:24;3758:4;
3759:2;3761:5;3763:4;
3770:18;3784:14;
3785:18;3786:7
turbines (102)
3683:6,8;3684:12;
3686:2;3690:4,9,12,16,
20;3693:17;3696:22,
24;3710:7,12;3713:13;
3714:2;3715:5;
3718:24;3719:18,19,
20,22;3720:1,8;
3722:11,12;3723:3,10,
19,21;3725:7,9,11;
3726:10;3727:18;
3729:17;3731:12;
3732:8,23;3733:4,5;
3734:9,12;3738:15;
3739:8,12;3741:3;
3742:11;3743:9;
3746:24;3749:17,21;
3750:8,10,15,24;
3751:4;3752:24;
3753:2,19;3754:8,9,16;
3755:8;3756:14,17;
3757:13,15;3758:17,
20;3759:6,15,20;
3760:24;3761:8,9;
3762:5,15;3764:9,14,
21,24;3765:5,18;
3766:1,3,5,15;3767:11,
21;3768:3,18;3769:7;
3771:1,2;3778:2;
3781:23;3782:22;
3783:17,19;3784:21;
3786:2
turbulence (1)
3693:10
turn (2)
3756:5,18
turned (1)
3738:15
turning (1)
3742:12
TV (1)
3721:17
twice (1)
3738:18
two (18)
3656:15;3658:5;
3661:3;3663:20;
3664:4;3665:18;
3667:13;3682:14,15;
3683:10;3684:9;
3690:8;3698:17;
3727:3,9;3728:15;
3739:9;3750:14
type (2)
3766:7;3768:20
types (2)
3723:8;3754:16
typically (1)
3699:1

U

UCLC (3)
3653:7,10;3787:13
unaffected (1)
3735:18
uncertainty (3)
3668:20,24;3669:5
under (10)
3656:12;3661:1;
3679:1;3680:7;
3708:16;3709:8;
3749:18;3758:15,16;
3763:17
underlying (2)
3720:6;3757:8
underscores (1)
3721:3
understands (1)
3787:24
understood (1)
3761:7
unfortunately (2)
3701:22;3728:22
United (1)
3754:10
Units (4)
3682:11;3704:2,21;
3733:18
unless (2)
3689:8;3705:23
unquote (1)
3783:20
unusual (1)
3730:8
up (40)
3662:10;3663:17;
3679:18;3680:5;
3684:11;3693:6,14;
3694:23;3698:1;
3699:14;3700:7,18,24;
3701:16;3702:5;
3706:2;3723:1;
3725:14;3751:17;
3756:7;3760:9,13;
3763:24;3764:23;
3765:2,6,19;3767:4;
3768:10;3770:20;
3772:1;3774:18;
3775:3;3776:4;
3781:14,15;3784:2,15,
15;3788:2
update (1)
3653:19
upon (4)
3669:4;3674:10,16;
3694:10
upper (1)
3664:8
upwards (1)
3696:8
upwind (2)
3698:15,21
use (12)
3657:17,19;3660:7;
3691:16;3713:7,14;
3727:15;3755:22;
3764:1;3770:3;3777:1;

3784:18
used (12)
3659:5,6;3665:14;
3668:18;3671:24;
3697:16;3715:10;
3752:16;3757:23;
3759:8;3765:21;
3781:4
uses (1)
3729:24
using (5)
3665:16;3683:8;
3684:15;3716:21;
3752:13
usually (2)
3699:20;3785:10
utility (1)
3718:24
utilized (1)
3669:8

V

validate (3)
3665:16;3672:1;
3707:21
validated (2)
3731:9,11
value (1)
3767:16
variation (1)
3721:3
various (3)
3715:4;3758:2;
3759:9
velocity (1)
3720:3
verbatim (1)
3691:17
verify (1)
3654:21
version (4)
3724:21;3725:10;
3726:1;3728:18
versus (4)
3699:17;3713:10;
3735:18;3740:5
vertigo (2)
3723:12,13
via (1)
3670:11
vibration (4)
3741:1,4;3742:3;
3784:5
vicinity (1)
3712:19
videos (1)
3759:9
view (1)
3656:2
Vigilance (1)
3675:6
vis-a-vis (1)
3781:2
visit (1)
3772:1
visited (2)
3722:18;3768:18
visual (1)
3733:3
visually (1)
3770:17
Vitzthum (6)
3652:11,12;3698:4;
3701:13;3788:4,5
VOICE (2)
3702:21;3749:4

W

waiver (1)
3678:8
wants (5)
3656:17;3673:11;
3712:5;3748:7,7
Watch (1)
3711:23
watching (1)
3771:14
way (25)
3653:20;3662:18;
3677:10,20;3678:11;
3680:8;3695:18;
3697:11,11;3698:20;
3711:5;3729:24;
3737:12;3743:14;
3751:7;3755:3;
3757:12;3767:1,1,22;
3772:4,5;3773:24;
3774:3;3782:5
ways (3)
3695:5;3713:11;
3757:22
website (7)
3653:3;3654:14,18;
3691:1,3;3706:2;
3787:15
Wednesday (9)
3678:13;3707:24,24;
3776:5,7;3777:8,9;
3787:8,10
week (2)
3666:11;3681:2
weekly (1)
3723:11
weeks (3)
3658:5,5;3696:14
weight (5)
3659:24;3674:6,7;
3675:21,23
Welcome (1)
3652:16
well-known (1)
3726:7
weren't (5)
3674:10;3717:22;
3745:11,12;3761:9
what's (11)
3664:22;3666:22;
3711:17;3720:18;
3730:2;3740:8;
3746:11;3748:16;
3762:2;3779:18;
3785:8
whatsoever (2)
3669:24;3675:1
wheelhouse (2)
3743:2,6
whenever (1)
3761:2
whereas (1)
3686:4
where's (1)
3707:16
wherever (1)
3697:1
whichever (1)
3729:24
whole (5)
3679:21;3688:19;
3743:9;3763:8;
3772:24
who's (1)
3658:12
whose (1)
3704:16
wife (1)
3699:14
Wind (121)
3652:8;3666:9;
3675:5,17;3692:22;
3695:7;3710:7,12,13;
3711:23;3712:19;
3713:6,13;3714:1,8;
3715:5,6,23;3718:24;
3719:15,20;3720:1,8;
3722:11,12,18;3723:3,
9,19,21;3724:7;3725:7,
9,11;3726:10;3727:18;
3729:16;3731:12,17;
3732:8,18,23;3733:4,5,
8,10;3734:9,11;
3738:12,15,20;3739:1,
7,13,22;3742:1;3743:8,
18,19,22;3746:23,24;
3747:17;3748:16,22;
3749:16,17,19,21;
3750:7,8,9,10,15,19,
24;3751:4,20,21;
3752:21,24;3753:1,2,4,
16,19;3754:8,14,16;
3755:7;3756:14,16,17,
24;3757:13,15;3758:4,
17,19;3759:2,6,14,19,
23;3762:15;3764:21,
24;3765:18,24;3766:3,
5;3768:3;3771:1,2;
3781:23,24;3782:21,
23;3783:16,19;
3785:18
windmill (1)
3699:7
windmills (2)
3770:10,12
wing (1)
3693:4
withheld (2)
3672:19;3673:2
within (5)
3687:23;3739:1;
3743:2,5;3754:5
without (5)
3684:19;3708:21;
3751:1;3771:13;
3782:16
witness (11)
3682:9;3703:23;
3704:23;3705:12,15;
3706:16;3709:5;
3727:1;3756:1;
3761:15;3777:17
witnesses (14)
3676:22;3682:6;
3704:9,16;3705:12,12,
22;3706:15,16;
3727:10,12;3728:1,10;
3748:8
witness's (1)
3761:14
woke (1)
3699:14
wondering (1)
3689:14
word (4)
3687:2;3695:22;
3740:13;3784:18
words (2)
3668:8;3697:14
work (2)
3680:7;3702:7
worked (2)
3702:9;3732:10
working (3)
3761:8,9;3787:23
works (2)
3731:1;3788:1
world (6)
3700:4;3720:14;
3724:6;3779:12;
3780:1;3781:1
worse (1)
3699:8
worst (3)
3696:4;3697:3,21
Wow (1)
3772:4
wrap-up (1)
3664:3
Wrightman (2)
3715:20,21
writing (1)
3694:7
wrong (3)
3751:8,10;3753:1
wrote (2)
3675:4;3735:6

Y

yard (1)
3692:1
yards (1)
3699:17
year (2)
3744:6;3746:5
years (1)
3731:4

Z

ZBA (14)
3682:1,4;3689:20;
3704:2,5,21;3705:2,6,
8,17,23;3729:5;
3775:14;3778:17
Zehr (1)
3653:5
zero (1)
3687:16
Zimmerman (1)
3652:14
Zoning (3)
3652:5,6;3707:11

0

003 (1)
3787:1
005 (1)
3690:15

1

1 (6)
3656:17;3660:8;
3662:17;3664:12;
3719:23;3738:1
1.72-103 (1)
3684:12
1.79 (1)
3683:9
1.79-100 (2)
3654:9;3683:10
10 (6)
3653:6;3665:19;
3689:2;3705:23;
3786:3,8
10:00 (1)
3786:5
100 (2)
3685:14,15
1000 (20)
3660:7;3662:17;
3664:12;3668:20;
3683:15;3684:18;

3686:5,24;3691:7;
3696:9;3697:9,18;
3698:5;3699:23;
3700:3;3701:5,7,11;
3778:4;3779:19
103 (1)
3686:19
10th (1)
3786:5
11 (8)
3660:11;3662:14;
3664:3,7,8;3667:21;
3683:6,8
11.1 (2)
3740:22,23
11th (1)
3786:5
12 (4)
3665:19;3672:8;
3739:13;3784:16
12/15 (1)
3664:17
12th (1)
3720:19
13 (1)
3672:8
130C (3)
3653:24;3654:4,12
132 (2)
3675:22,23
14 (1)
3672:8
1400s (1)
3676:12
15 (5)
3666:24;3667:2;
3683:22;3684:2;
3705:8
16 (3)
3666:24;3667:2;
3684:21
16A (4)
3680:18;3690:21;
3694:15;3777:22
16B (13)
3663:15,16;3680:18;
3683:2,5;3691:3,4;
3694:6,16;3696:3;
3777:21;3778:1;
3779:11
17 (5)
3671:21;3672:3,10,
11;3699:1
18 (1)
3785:11
1800 (1)
3699:1

2

2 (13)
3696:8;3697:5,15,
18,21;3739:5;3779:16,
18,21,23;3780:23;
3781:6;3786:24
2,000 (1)
3699:2
2:00 (1)
3786:1
20 (10)
3689:2;3739:10,11;
3741:7;3765:6,20;
3775:19;3776:1;
3784:16;3785:11
2010 (3)
3724:17,22;3726:2
2011 (2)
3674:14;3720:10
2012 (1)
3726:5
2013 (1)
3719:17
2014 (2)
3720:19;3786:1
2015 (3)
3652:4;3653:7;
3705:23
214 (1)
3740:22
218 (1)
3712:19
21st (1)
3685:7
222 (1)
3723:8
24 (1)
3667:21
243 (1)
3683:24
25 (7)
3667:21;3683:13,19,
20,22;3684:16;
3727:14
25th (3)
3727:10;3728:10,19
270 (1)
3683:24
272 (3)
3720:19;3721:23;
3734:3
27th (1)
3652:4
28 (1)
3669:10
280 (5)
3715:20;3716:5,10;
3717:22,24
285 (2)
3716:4;3717:22
29 (1)
3687:3
2900 (1)
3676:15
2967 (1)
3676:17
2973 (2)
3676:1,6
2976 (1)
3675:12
2985 (1)
3675:20
29th (3)
3652:17;3777:10;
3787:9

3

3 (2)
3668:19,23
3,000 (1)
3699:2
30 (5)
3662:23;3663:13;
3669:1,4;3689:3
31 (1)
3715:2
31.5 (1)
3740:18
313 (1)
3683:24
32 (3)
3669:19;3670:3;
3686:11
329 (1)
3683:24
334 (2)
3725:19,24
34 (1)
3669:20
345 (1)
3683:24
35 (1)
3657:7
36 (1)
3670:22
38 (3)
3660:11;3664:1;
3672:13
388 (1)
3683:24
389 (1)
3684:1
39 (7)
3672:10,18;3697:9,
14;3779:22;3781:1,8
396 (1)
3684:1

4

4 (1)
3661:10
40 (2)
3667:21;3689:3
40.0 (1)
3685:11
40.5 (2)
3686:12;3687:3
40.9 (2)
3686:12;3687:3
41 (16)
3662:24;3663:14;
3664:9;3685:9,10;
3686:6;3691:8;
3697:13,14;3778:2;
3779:11,20,24;
3780:22;3781:1,2
41.0 (12)
3663:7,11;3683:14;
3684:17;3685:9,11;
3686:6,7,9,23;3687:15,
22
41.01 (1)
3687:17
41.1 (1)
3686:1
41.4 (3)
3663:7;3685:12;
3686:1
41.5 (2)
3663:7;3685:10
42 (1)
3670:22
438 (1)
3684:1
439 (1)
3684:1
45 (2)
3662:23;3663:13
484 (1)
3684:1

5

5 (7)
3653:10;3683:24;
3686:19;3724:18,21,
23;3727:13
50 (1)
3731:4
500 (1)
3661:10
502 (1)
3684:1
58 (1)
3787:1
5th (1)
3786:1

6

6 (2)
3671:18;3672:7
6:00 (1)
3786:5
6:30 (4)
3707:12;3777:10,13;
3787:9
6:45 (1)
3652:1
6th (1)
3786:19

7

7 (4)
3672:5,24;3673:4,8
7:00 (1)
3787:10
7:50 (2)
3706:24;3707:4
70 (1)
3776:17
748 (1)
3684:1
75 (2)
3713:8;3740:1
7th (5)
3707:6,9,14;
3777:12;3787:9

8

8 (10)
3653:7;3656:22;
3657:5,6;3658:1,8,18,
22;3673:24;3674:13
8:00 (1)
3707:1
8:01 (1)
3707:4
80 (2)
3669:1;3699:17
87 (5)
3716:2,3;3785:23;
3786:9,12
88 (3)
3785:22,23,23
89 (1)
3785:23
8th (1)
3786:15

9

9 (4)
3658:17;3660:11,17;
3664:3
9:00 (1)
3775:19
9:36 (1)
3788:12
901.101 (1)
3658:11
901.102 (1)
3657:7
92 (1)
3683:24
9613-2 (1)
3668:19
99 (2)
3664:21;3736:11