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STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

TRANSCRIPT OF PROCEEDINGS
Evidentiary Hearing
November 13, 2014
Jefferson City, Missouri
Volume 14

In the Matter of the)
Application of Grain Belt)
Express Clean Line LLC for)
a Certificate of Convenience)
and Necessity Authorizing It)
to Construct, Own, Operate,) Case No.
Control, Manage, and Maintain) EA-2014-0207
a High Voltage, Direct Current)
Transmission Line and an)
Associated Converter Station)
Providing an Interconnection)
on the Maywood - Montgomery)
345 kV Transmission Line)

MICHAEL BUSHMANN, presiding
SENIOR REGULATORY LAW JUDGE
ROBERT S. KENNEY, CHAIRMAN
STEPHEN M. STOLL,
WILLIAM P. KENNEY,
SCOTT T. RUPP,
DANIEL Y. HALL,
COMMISSIONERS

REPORTED BY:
MEGAN GRANDA, CCR, RPR
MIDWEST LITIGATION SERVICES

1 APPEARANCES:
2 KARL ZOBRIST, Attorney at Law
JONATHAN STEELE, Attorney at Law
3 LISA GILBREATH, Attorney at Law
Dentons USA, LLP
4 4520 Main Street, Suite 1100
Kansas City, MO 64111
5 (816)460-2545
Karl.zobrist@dentons.com
6
FOR: Grain Belt Express Clean
7 Line LLC.
8 PAUL AGATHEN, Attorney at Law
485 Oak Field Court
9 Washington, MO 63090
(636)980-6403
10 Paa0408@aol.com
11 FOR: Missouri Landowners Alliance.
12 TERRY M. JARRETT, Attorney at Law
Healy & Healy
13 514 E. High Street, Suite 22
Jefferson City, MO 65101
14 (573)415-8739
Terry@healylawoffices.com
15
FOR: Show Me Concerned Landowners.
16 Missouri Farm Bureau.
17 GARY DRAG, Attorney at Law
Law Office of Gary Drag
18 3917A McDonald Avenue
St. Louis, MO 63116
19 (314)496-3777
Gddrag@lawofficeofgarydrag.com
20
FOR: Matthew and Christina Reichert.
21 Randall and Roseanne Meyer.
22
23
24
25

1 COLLY DURLEY, Attorney at Law
Smith Lewis, LLP
2 111 South 9th Street, Suite 200
P.O. Box 918
3 Columbia, MO 65205
(573)443-3141
4 Durley@smithlewis.com
5 FOR: Rockies Express Pipeline
6 STEVEN REED, Attorney at Law
P.O. Box 579
7 Holts Summit, MO 65063
(573)301-8950
8
FOR: Wind on the Wires.
9 The Wind Coalition.
10 NATHAN WILLIAMS, Deputy Counsel/Electric
ALEXANDER ANTAL, Legal Counsel
11 CYDNEY MAYFIELD, Legal Counsel
Missouri Public Service Commission
12 P.O. Box 360
200 Madison Street
13 Jefferson City, MO 65102
(573)751-3234
14
FOR: Staff of the Missouri Public
15 Service Commission.
16 TERRI PEMBERTON, Attorney at Law
Cafer Pemberton LLC
17 3321 SW 6th Avenue
Topeka, KS 66606
18 (785)232-2123
Terri@caferlaw.com
19
20 FOR: Infinity Wind Power.
21
22
23
24
25

1 PROCEEDINGS

2 (WHEREUPON, the hearing resumed at
3 8:30 a.m.)

4 JUDGE BUSHMANN: Good morning. Today is
5 November 13, 2014. Day 3 of the Grain Belt Express
6 hearings in EA-2014-0207.

7 My understanding of the game plan today is
8 that we're going to start with Thomas Priestley, and
9 the next witness will be Matt Langley; is that
10 correct?

11 MR. ZOBRIST: Right. From Infinity
12 Wind.

13 JUDGE BUSHMANN: And then after that,
14 are we going back to the list of witnesses that was
15 printed or do we still have some other adjustments?

16 MR. ZOBRIST: We have an adjustment
17 because Mr. Cleveland had a family emergency and
18 will not go until Friday. So we were then going to
19 proceed after Mr. Langley with Dr. Bailey. And then
20 Mr. Goggin and either, pardon me, Dr. Loomis or
21 Mr. Gaul. So those are the six witnesses that we
22 had.

23 JUDGE BUSHMANN: And I understand
24 Mr. Goggin is videoconferencing in, and we'll need
25 to get him in today, at some point.

1 MR. ZOBRIST: I've actually forgotten
2 that, but Mr. Reed I'm sure will.

3 JUDGE BUSHMANN: So maybe this
4 afternoon, we'll be able to do Mr. Goggin.

5 MR. REED: What we anticipated, just
6 based upon my reading of the witnesses that he will
7 go this afternoon. But, I think, we're relatively
8 flexible as long as we have a few, a little bit of
9 time to get him set up.

10 JUDGE BUSHMANN: Right. Well, let's
11 just see how we go along and maybe after the lunch
12 break, if that works, to set up the video.

13 All right. Well, I guess, we're ready to
14 proceed. Oh, yes?

15 MR. ZOBRIST: I just have one
16 preliminary matter. Commissioner Hall asked for
17 some milestones. And I just wanted to pass out an
18 exhibit that I'm going to mark as Exhibit 123. It
19 was among many pages that we produced to Missouri
20 Landowners Association, and I thought this might
21 satisfy Commissioner Hall.

22 JUDGE BUSHMANN: Okay.

23 MR. ZOBRIST: So, Judge, I would move
24 the admission of Exhibit 123 at this time.

25 JUDGE BUSHMANN: Are there any

1 objections to the receipt of that Exhibit?

2 Hearing none.

3 Exhibit 123 will be received into the
4 record.

5 (GRAIN BELT EXPRESS EXHIBIT 123 RECEIVED
6 INTO EVIDENCE.)

7 MR. STEELE: Judge, Grain Belt Express
8 calls Thomas Priestley as our next witness.

9 (Witness sworn.)

10 THOMAS PRIESTLY testified as follows:

11 DIRECT EXAMINATION BY MR. STEELE:

12 **Q. Please state your name.**

13 A. Thomas Priestley.

14 **Q. And where are you employed?**

15 A. I work for CH2MHILL.

16 **Q. And what's your position there?**

17 A. I'm a Senior Environmental Planner.

18 **Q. Did you prepare surrebuttal testimony in
19 this matter?**

20 A. I did.

21 **Q. And is Exhibit 107 a copy of your
22 surrebuttal testimony and attached schedules?**

23 A. It is.

24 **Q. Do you have any corrections to make to
25 your surrebuttal testimony?**

1 A. Yes, I do. So if you would turn to page
2 23, line 10 there is a typo. It should read in the
3 vicinity of not 0.11 percent, but 1.11 percent.
4 And, in fact, this then makes this figure consistent
5 with the figure cited on page 22, line 7, which
6 correctly indicates that there is a reduction in
7 property value to 2.44 percent.

8 **Q. And is that the only correction you**
9 **have?**

10 A. Yes, it is.

11 **Q. If I were to ask you the same questions**
12 **in your surrebuttal testimony, would your answers be**
13 **the same?**

14 A. Yes, they would be.

15 **Q. And you gave those answers under oath?**

16 A. I did.

17 MR. STEELE: Judge, I would move to
18 admit Exhibit 107 into the record, which is the
19 surrebuttal testimony of Dr. Priestley.

20 JUDGE BUSHMANN: Any objections to
21 receiving that Exhibit?

22 Hearing none.

23 Exhibit 107 is received into the record.

24 (GRAIN BELT EXPRESS EXHIBIT 107 RECEIVED
25 INTO EVIDENCE.)

1 MR. STEELE: And I will tender
2 Dr. Priestley for cross examination.

3 JUDGE BUSHMANN: First cross will be
4 Wind on the Wires.

5 MR. REED: Thank you, Judge, no.

6 JUDGE BUSHMANN: Commission staff?

7 MS. MAYFIELD: No questions.

8 JUDGE BUSHMANN: Rockies Express
9 Pipeline. Is Ms. Durley here today?

10 MR. ZOBRIST: I know she's going to be
11 here later, Judge.

12 JUDGE BUSHMANN: Riecherts and Meyers.

13 MR. DRAG: Yes, your Honor, we have some
14 questions.

15 CROSS-EXAMINATION BY MR. DRAG:

16 Q. Good morning, Dr. Priestley. My name is
17 Gary Drag. I represent Matthew and Christina
18 Reichert and Randall and Roseanne Meyer. And thank
19 you for being here today.

20 My first question for you is, will you
21 please explain briefly what hedonic regression
22 analysis is?

23 A. Certainly. Many of you are probably
24 familiar with regression analysis. It's a type of
25 statistical analysis where you take a very, very

1 large sample, in this case of sales transactions.
2 And then what you do is the equation runs the sales
3 price of this property is a function of. And then
4 the calculations allow you to pull things apart and
5 deduce the extent to which the various factors that
6 would affect the sales value of a property, you
7 know, to deduce the role that they play in the
8 overall price.

9 And so typically, if you're looking at a
10 property, obviously, it would be the size of your
11 parcel. If it's a home, the size of the home,
12 number of bedrooms, number of bathrooms, for ag
13 properties, soil quality. So there's like a whole
14 range of factors that the hedonic modeling process
15 enables you to kind of, well, tease apart what is
16 the role played by each of those factors. And
17 identify, okay, what percentage of the price of the
18 property is attributable to each of these factors.

19 And this is very much become the
20 standard way of evaluating impacts of various kinds
21 of facility. There is a very large, you know,
22 academic and research literature that uses hedonic
23 modeling.

24 **Q. Thank you. Now, each of the parameters**
25 **are a separate variable in the regression analysis,**

1 correct? So you'll have sales price, number of
2 bedrooms, lot size, etc?

3 A. Yeah, the sales price would be the
4 so-called dependent variable, you know, that's, you
5 know, that's the dependent variable. Then the
6 so-called independent variables would be things
7 like, you know, lot size and location, things of
8 that nature.

9 Q. Thank you. Now, in terms of the sample
10 size. Is there a correlation between the sample
11 size of the properties you have to take and a number
12 of independent variables?

13 A. Yeah, if you have a lot of variables,
14 you need a larger sample size.

15 Q. And what is the -- is there a
16 logarithmic correlation or how does that
17 correlation, you know, two to a power? You know, is
18 there a set rule on the correlation of the number of
19 parameters and the sample size?

20 A. Hmm. You know, I don't think I can
21 answer your question the way that's been stated.

22 Q. So you can't -- so is there any kind of
23 mathematical correlation between the number of
24 independent variables and the sample size?

25 A. Yeah, there are standards, but I

1 wouldn't be able to tell you what they are right
2 now.

3 **Q. Okay. In your view, what is a**
4 **acceptable sample size for effective regression**
5 **analysis?**

6 A. Yeah, I've worked on some of my own.
7 I've certainly looked at a lot of them. So
8 generally speaking, you would want to be up, I
9 think, close to certainly over 50 or 60, somewhere
10 between there and several hundred in your sample.

11 **Q. Okay. Now, in terms of valuation of**
12 **properties. What other valuation methods are there?**

13 A. Well, I've kind of marched through this
14 in my testimony, and I point out that there are, you
15 know, three ways, there are three kinds of analysis
16 of property value impacts that you find in the
17 literature. Initially many, many years ago when
18 people started to figure out, okay, what's the
19 impact of transmission lines on property values.
20 They hired appraisers --

21 **Q. Excuse me. Dr. Priestley, just give me**
22 **the names of different types.**

23 A. Okay. I'm sorry. There are appraisal
24 methods, statistical, well statistical methods, and
25 survey approaches.

1 **Q. Okay. Thank you. Now, what are the**
2 **weaknesses of the hedonic regression analysis?**

3 A. Yeah. One of the issues with doing an
4 hedonic-based analysis of property value impacts,
5 is, yeah, as you mentioned before, you need a large
6 sample. And developing that data can actually be an
7 expensive enterprise because not only do have you to
8 go to the County Assessor's Office to get all the
9 data on the sales and basic property
10 characteristics, you need to do quite a bit of field
11 research to generate other variables. Whether it
12 be, say, views of the transmission line or other
13 feature you're interested in. You need to do GIS
14 based analysis to get a measurement of what is the
15 physical relationship of the transmission line to
16 the property, and so on. So it can be a rather
17 expensive operation. Certainly takes quite a bit of
18 skill as well. And it's for that reason we don't --
19 we don't have as many of these studies as we would
20 really like to have.

21 **Q. Isn't it true though that one of the one**
22 **of the problems with regression analysis is market**
23 **limitations?**

24 A. Can you explain what you mean when you
25 say market limitation?

1 **Q.** Basically, it is the situation where the
2 purchaser is -- there's an inability to move further
3 away from the target area, so for instance, so what
4 happens is that you are limited, where the
5 purchasing public are limited either based on income
6 or whatever to a certain area of properties, and so
7 what that does is create an imperfect market and not
8 a truly, a truly efficient market.

9 A. Yeah I'm not sure --

10 **Q.** Okay.

11 A. -- if I completely follow the question,
12 but.

13 **Q.** What about multicollinearity, is that a
14 weakness of the process?

15 A. Well, yeah, multicollinearity is one of
16 those terms when you take these classes in
17 statistical analysis. That's a lot of fun. And it
18 means that variables might have associates with each
19 other, but there are specific statistical methods
20 that you can use for multicollinearity in our
21 analysis, and anybody's who competent analyst will
22 do that.

23 **Q.** Also, isn't lack of stochastic
24 independence between observations that's due to the
25 location or spatial structure in the market a

1 **weakness?**

2 A. Well, I think for me to answer that,
3 I'll have to ask you to explain your question a
4 little bit more.

5 Q. Well, stochastic independence is where
6 you want to maintain the variables are independent,
7 but if you don't have that in your observations then
8 that, again that becomes a problem of correlation.
9 Where, if you have correlation between variables,
10 they're moving together and that distorts the
11 regression analysis; isn't that true?

12 A. Yeah. Um. Again, I'm having trouble
13 completely following the logic here. But in doing
14 studies of this kind, there is a great deal of care
15 put into a definition of each of the variables. And
16 attention is paid to, you know, items that might be
17 closely that might be closely correlated.

18 Q. Okay. Well, we'll come back to that.
19 What about the model specification, isn't that a
20 critical?

21 A. Yes. Yeah, it is. And very often in
22 doing these kinds of analysis, different
23 specification, a variety of specifications are used,
24 and then the specification that is determined
25 statistically to have the highest level of

1 explanatory power is selected as the final model.

2 Q. Okay. What else? I think that's -- and
3 actually one of the biggest issues regression
4 analysis is you're, of course, determining, defining
5 the finding the independent variables. So if you do
6 not correctly define those variables or you omit
7 them, then that can skew your results; isn't that
8 true?

9 A. It is true that a great care is taken,
10 it needs to be taken, in the identification of the
11 independent variables.

12 MR. DRAG: Okay. Well, this will be a
13 little bit choppy today because part of what I have
14 to call up is electronic. And I apologize
15 Commissioners, the change up in orders tossed me for
16 a loop, so I've been scrambling. Okay. I think
17 it'll be easier working up here. Okay.

18 Q. Are you familiar with uniform standards
19 --

20 JUDGE BUSHMANN: Could you use the
21 microphone please, Mr. Drag? Thank you.

22 Q. Here we go. Okay. Are you familiar
23 with the uniform standards of professional appraisal
24 practice?

25 A. I am not.

1 Q. Okay. Well, what I have here -- and
2 we'll go back to page one -- is a presentation that
3 was given on Advanced Statistical Modeling in Real
4 Estate Appraisal and it was by John Kilpatrick.
5 Okay. Let's see if I can find that. I went too
6 far. Okay. Well, there we go. Okay. Well, this
7 is -- so they consider --

8 JUDGE BUSHMANN: Could you use the
9 microphone please?

10 Q. They -- this article considered that put
11 hedonic models under expert systems. What the AVM
12 is their abbreviation for expert systems that
13 includes hedonic modeling, so I will make that.

14 Can you read what it says about the
15 advisory opinion?

16 A. Yes. I just read it.

17 Q. Okay. Can you read it out loud please
18 for the record?

19 A. I'm sorry. I didn't understand what you
20 were asking. This is a little awkward here because
21 microphone is in the other direction. I'll do the
22 best I can here.

23 JUDGE BUSHMANN: It will pick up pretty
24 well without having to be right on it.

25 A. Okay. So this is USPAP? Advisory

1 Opinion 18. "An AVM's output is not, by itself, an
2 appraisal, and communication of an AVM's output, is
3 not, in itself, an appraisal report."

4 **Q. Okay. And then can you read, out loud,**
5 **for the record, this statement please about the mass**
6 **appraiser?**

7 A. So this is still under the rubric USPAP?
8 Standards Rule 64(b) comment. "Mass appraisers must
9 develop mathematical models that, with reasonable
10 accuracy, represent the relationship between
11 property value and supply and demand factors, such
12 as presented by quantitative and qualitative
13 property characteristics."

14 **Q. Okay. Thank you. And then also this**
15 **comment.**

16 MR. STEELE: Judge, does Mr. Drag have a
17 question for Mr. Priestley?

18 MR. DRAG: Well, I'm -- what I'm trying
19 to establish, your Honor, is that -- is that the
20 USPAP basically has established that hedonic is just
21 one tool within the tool set. Not just, you know,
22 for appraiser's appraisal. And it's their procedure
23 to say that's geared towards mass appraisals.

24 JUDGE BUSHMANN: Okay. Why don't you
25 ask him about that?

1 MR. DRAG: I'm sorry.

2 JUDGE BUSHMANN: You need the
3 microphone.

4 Q. So do you agree that -- granted you
5 don't, you're not familiar with the USPAP, but do
6 you agree that hedonic modeling is geared toward
7 mass appraisals?

8 A. Well, of course.

9 Q. Okay.

10 A. And that's exactly the point. It's the
11 tool that really has the most relevance for
12 generating data that's applicable to larger policy
13 decisions like the one in front of this commission
14 today.

15 Q. But other -- but would you agree that
16 the other two items you mentioned are also tools in
17 the appraisal process?

18 A. Well, you know, they have a role to play
19 certainly, if you want to do an appraisal of a
20 specific property that really is the realm of the
21 appraiser, and the traditional set of tools
22 available to the appraiser. So I don't really see
23 any kind of a conflict here.

24 Q. Okay. Thank you. Let's do it this way
25 for now. If you would turn to your surrebuttal. On

1 **page 11, you reference an article by William Weber**
2 **and Glen Jensen. Now, you were unable to locate**
3 **that article. Do you remember what was stated in**
4 **that article?**

5 A. So this was a study of property value
6 impacts of a transmission line in Minnesota that was
7 done in the 1970s. And this was a case in which, in
8 this particular study, there was a finding of an
9 impact on agricultural lands of up to 20 percent.
10 And that was in the case of properties with
11 irrigation.

12 **Q. Okay. I'm sorry. Can you repeat that**
13 **please?**

14 A. I don't know how I could be anymore
15 clear.

16 MR. DRAG: Can you repeat what he said
17 please?

18 (Answer read back.)

19 **Q. Okay. Now, are you familiar with their**
20 **1982 study?**

21 A. It's one that I believe I have, but off
22 the top of my head, I can't tell you very much about
23 it.

24 **Q. Okay. I'm going to put this up on the**
25 **screen. Okay. Can you please read -- so what does**

1 it say at the top please?

2 A. Okay. It says Appendix G Property
3 Values Supplement.

4 Q. Okay. Now, I'm going to -- and this was
5 a supplement to, am I correct in saying, it's a
6 supplement to the ITCM Minnesota-Iowa 345kV
7 Transmission Line Project?

8 JUDGE BUSHMANN: Mr. Drag, you'll need
9 to use your microphone please.

10 MR. DRAG: I need a clip on.

11 Q. So at the very bottom, it says, what
12 that Exhibit was for, which is ITCM Minnesota-Iowa
13 345kV Transmission Line Project -- Draft
14 Environmental Impact Statement.

15 Now, I'm going to page down. And where
16 it says: The 1982 study found there was a broad
17 range of effect, from no effect to a 20 percent
18 reduction, which depended on the amount of
19 disruption to farm operations.

20 So do you agree with that, from what you
21 remember?

22 A. Well, this is a summary that's provided
23 in this environmental impact report, so I can't say
24 that I'm going to challenge it.

25 Q. But I mean, is this your recollection of

1 what that report was?

2 A. You know, I don't -- I think it would be
3 unfair to me to ask me to recollect what I might
4 have read in this report at one time. But I will
5 say that this figure is consistent with what I
6 reflect from their earlier research.

7 Q. Okay. Thank you. Now, staying on that
8 page, you reference a number of studies, and we --
9 and if you continue on to page 12, you mention
10 positive effects and negative effects.

11 Do you remember that we asked you, we
12 submitted a data request to you, to define the
13 positive and negative effects?

14 A. And this would be the positive and
15 negative effects identified in the six areas that
16 were evaluated by the Woods Gordon study in Ontario.

17 Q. Right. Well, this -- okay. So --

18 MR. DRAG: May I, I'd like to introduce
19 Exhibit 557, your Honor.

20 Q. Now, on item 23, can you read the
21 indented paragraph on your response? Can you read
22 that? And can you read it -- and well, you don't
23 have to read it out loud, but do you still agree
24 with it?

25 A. I agree.

1 Q. Okay. And then going down to item 24 on
2 your response where it says, where we ask for
3 negative effects. It says, this tends to support
4 hypothesis that land could be developed for
5 residential as opposed to agricultural purposes more
6 vulnerable to a negative impact.

7 Do you still agree with that statement?

8 A. I agree that this is a conclusion of
9 that research.

10 Q. Right. Okay. But that's what you
11 provided to us in your data?

12 A. Yeah.

13 Q. Okay. Thank you. Now, one of the
14 articles you quoted was by James Chalmers. And
15 that's quoted on page 11 of your surrebuttal. It is
16 titled High-Voltage Transmission Lines and Rural,
17 Western Real Estate Values.

18 A. Yes.

19 MR. DRAG: May I approach the witness,
20 your Honor?

21 Q. Here you go. Now, Mr. Chalmers do you
22 remember what his summary was with respect to real
23 estate values?

24 A. I do.

25 Q. Okay. Can you please state that, just

1 **briefly?**

2 A. So Montana is a place that has kind of a
3 range of types of properties and some of them are
4 large and some of them have a mix of agriculture and
5 recreation and other kinds of things going on. And
6 what his analysis determined was that for properties
7 that were strictly grazing or agriculture, the 500kV
8 transmission line had no impact on the sales value
9 of those properties. And when it came to other
10 kinds of properties, he determined that, in some
11 cases where there were residential subdivisions of
12 very small parcels right along the transmission
13 lines, he found that, in fact, some of those
14 parcels, which are parcels of raw land, had been
15 adversely effected by the nearby proximity of the
16 transmission line.

17 **Q. Okay. I would like to direct your**
18 **attention to paragraph two.**

19 A. Paragraph two?

20 **Q. On the first page.**

21 A. Of?

22 **Q. On the first page of the article.**

23 A. Okay.

24 **Q. And please read the sentence starting**
25 **with the number of cases.**

1 A. The number of cases is too small to
2 support statistical conclusions; however, for some
3 property types, there is a sufficient number of
4 cases and sufficient similarity of conclusions
5 across the cases to draw some useful
6 generalizations. It is possible at the end of the
7 article to draw some useful generalizations across
8 property types.

9 **Q. Okay. So based on your issue -- with**
10 **you having raised the issue in your surrebuttal**
11 **about sample size, then the issue of sample size,**
12 **this article has that same problem; is that not**
13 **correct?**

14 A. That is true. Perhaps we can talk more
15 about this article. But that is true. This is a
16 set of case studies.

17 **Q. Okay. Thank you. Then I'd like you to**
18 **go down to the next paragraph. And if you can go**
19 **down to about halfway in, there's a sentence that**
20 **starts, as discussed. And can you read that through**
21 **the sentence ending in transmission line impact?**

22 A. As discussed in the next section, the
23 literature concludes that, in terms of the
24 statistical significance, the effects are usually
25 nonexistent or small. But, this simply means there

1 is no consistent relationship in the data. It does
2 not rule out the possibility that some individual
3 properties are significantly affected, nor does it
4 provide any insight into the conditions shared by
5 those individual properties that make them
6 vulnerable to transmission line impact.

7 Q. Okay. Thank you. Well, we'll skip
8 that. I don't think that's what I want. Now, if
9 you can turn to the second from the last page.

10 A. Of?

11 Q. Of this article please. Okay. And I'd
12 like you to read -- well, just to make sure we're
13 capturing it in its entirety, can you read starting
14 with, finally?

15 A. That's at the bottom of the left column?

16 Q. Yes.

17 A. Okay. Finally, over the past several
18 years, multiple regression analysis has become the
19 dominant methodology applied to the question of
20 transmission line impact on real estate values. And
21 indeed, if the objective is to determine whether
22 there is a generalizable, statistically significant
23 relationship between transmission lines and real
24 estate value, multiple regression over a large
25 number of observations is unquestionably the

1 definitive methodology. But, it must be recognized
2 that the result is essentially an average. It
3 address the question of whether there is a
4 consistent effect between the variables in the
5 question. The absence of an effect in this context
6 can be misinterpreted to mean that transmission line
7 impact is a nonissue. On the contrary, transmission
8 lines may be a big problem under certain specific
9 circumstances, but those circumstances are
10 sufficiently rare that they do not show up in the
11 statistical analysis. Further, the statistical
12 analysis does not help identify those circumstances
13 where transmission lines may have an impact.

14 **Q. Now, would you agree, yes or no, that**
15 **this conclusion is probably the core point of this**
16 **article, not the reduction in or the lack of loss of**
17 **property values?**

18 A. Well, I can't answer the question the
19 way you've asked it. I would say, it is an
20 important point. But, you know, the data, the
21 approach that he's taking all of that, actually, is
22 part of the point.

23 **Q. But this is his conclusion, correct?**

24 A. Yeah, it is a conclusion, yes.

25 **Q. Okay. And his goal -- so this article**

1 really isn't addressed towards the property value,
2 it is more geared towards generalizations; is that
3 not correct?

4 A. Yeah, I don't know whether or not I can
5 answer your question in the way that you have asked
6 it because it's, you know, some of both. It's a
7 report of the study that he did, but he's also
8 generalizing about, you know, method and the larger
9 question of the role of statistical analysis as
10 valid for policy level decisions.

11 Q. Okay. But policy level, not necessarily
12 and it's at the -- it cannot be used to make a
13 blanket statement that certain properties will not
14 be impacted?

15 A. You can't say that, yeah --

16 Q. Okay.

17 A. You can't go to say that well, this
18 specific property won't be impacted, you know, you
19 would need to do a specific analysis of that
20 property.

21 Q. Okay. Thank you.

22 MR. DRAG: May I approach the witness,
23 your Honor?

24 JUDGE BUSHMANN: Yes. You don't need to
25 ask.

1 MR. DRAG: Okay.

2 Q. I'm going to hand you, is that one of
3 the articles you cited in your surrebuttal?

4 A. Yes, it is.

5 Q. Okay. And for the record, can you read
6 off the title?

7 A. The Effect of Power Line Structures and
8 Easements on Farm Land Values by Dean J. A. Brown of
9 the College of Agriculture at the University of
10 Saskatchewan, Canada.

11 Q. Okay. So one of the things in these
12 articles that I saw was that -- strike all that.

13 Do you consider doing comparable
14 comparisons a weak approach?

15 A. Well, it all depends on what you're
16 doing it for.

17 Q. Okay.

18 A. You know, comparables might be part of
19 what an appraiser may do when doing an appraisal of
20 a specific property. But when you are doing a large
21 scale analysis, today, the ideal is to use, you
22 know, a statistical approach. But you'll notice
23 from the date of this particular article that
24 Mr. Brown was doing his research very early on
25 before there had been a shift over to the use of

1 statistical methods.

2 Q. Okay. If you could turn to page 35.

3 A. Yes.

4 Q. Okay. At the very bottom of the second
5 column where it starts with quarter sections?

6 A. Okay.

7 Q. Isn't it true that what he did was he
8 actually did comparables, select the properties
9 based on comparable decisions, just like an
10 appraiser would?

11 A. Yeah. When you read this, it's clear
12 that that's what he did. He was looking for
13 comparability.

14 Q. Okay. So how he selected his data set
15 was based on using comparables?

16 (Witness nodding.)

17 Q. Okay. So in essence, if there's a
18 weakness in the selection process, then that would
19 impact his results in this article, and they would
20 be skewed; is that correct?

21 A. Well, yeah, I don't think anyone's
22 arguing that there was a weakness in his selection.

23 Q. Okay. And then if you go to --
24 actually, let's see. That would be the second page,
25 second column. And where -- isn't there a heading

1 that says, regression analysis?

2 A. Yes, there is.

3 Q. And if you go down, down to the very
4 last paragraph on that page, where it says, the
5 dependent variable Y was the selling price per
6 cultivated acre adjusted for the existence of
7 wasteland, pastoral land, or improvements. So you
8 had just prior said this was not a statistical
9 analysis. But isn't it true that this was a
10 statistical analysis?

11 A. I did not say that. I said that he was
12 doing his work right at the point where there was
13 this transition, but I did not say that it was not a
14 statistical analysis.

15 Q. Okay. Thank you. Can you go over to
16 page 36 please. And the second column. And under
17 **An Approach to Compensation for Power Line**
18 **Structures and Easements on Farm Land.** And can you
19 read that paragraph please?

20 A. Which paragraph?

21 Q. The very first paragraph under that
22 heading.

23 A. Okay. So the heading here is Approach
24 to Compensation for Power Line Structures and
25 Easements on Farm Land. It is quite clear that no

1 simple formula is available or can be readily
2 developed to determine fair or adequate
3 compensation. There is too much variation between
4 cases and the nature of the impact of expropriations
5 and the various structures installed for a simple
6 formula to be adequate in all cases. This means,
7 for example, that a simple formula based on the
8 multiple assessed value of land, a payment per
9 structure, or per line, or some multiple of market
10 value does not provide an adequate basis for
11 determining compensation. It seems equally clear
12 that there's a need to identify the main components
13 of losses caused by expropriations so that the level
14 of compensation can be determined. Clearly
15 explained and defended --

16 **Q. Okay. That's good. Thank you.**

17 **Then, if you could skip down a little**
18 **bit, there's a list of six items. And can you**
19 **read -- basically, it says, it's below the**
20 **paragraph, in attempting to identify the components**
21 **of loss, and then if you go down. Please read into**
22 **the record where it talks about the main components**
23 **with that sentence and the six items.**

24 MR. STEELE: Judge, does Mr. Drag have a
25 question regarding the contents of this article?

1 MR. DRAG: Yes, I'm laying the
2 foundation for that, which is right after this.

3 JUDGE BUSHMANN: Okay. You may proceed.

4 MR. DRAG: Thank you.

5 A. So the main components, which can be
6 readily identified include the following: Rights of
7 ownership lost, increased operating costs, reduced
8 gross returns, cost due to risks and damages to
9 machinery and equipment, value of area out of
10 production, and other factors such as urban
11 influence, competing high uses and mineral rights.

12 Q. Okay. And one last -- if you look
13 through the remaining pages, does he describe those
14 components?

15 A. He does.

16 Q. Okay. So really, again, this article,
17 the main crux of it, almost the tail end of the
18 article, is devoted to components of loss and
19 they're very individualized, and he's not applying a
20 blanket regression analysis to calculate that, he's
21 saying -- isn't it true he's saying, a per cost, you
22 know, this simplified, per structure compensations
23 are not appropriate?

24 A. Well, I think we're talking apples and
25 oranges here. What he is really referring to when

1 it comes, yeah, there are two things this article
2 deals with. One is, what is the revealed behavior?
3 What are the prices that people actually paid for
4 agricultural land with transmission lines, so he's
5 established that through use of the regression
6 analysis. And here, he's off on to another subject,
7 which is, when it comes time for a power line
8 developer to talk, to negotiate with a landowner,
9 here are the factors that need to be very
10 systemically taken into account in determining, you
11 know, the level of compensation to the individual
12 landowner.

13 **Q. Okay. Thank you. And do you agree that**
14 **his analysis on that, on the compensation piece of**
15 **it?**

16 **A.** Well, I mean, this is really pretty
17 straightforward. It's very consistent with the way
18 people think about this and go about doing it, so
19 there's, you know, nothing particularly, you know,
20 surprising here.

21 **Q. Okay. Now, I'm handing you another**
22 **article that you cited in your surrebuttal. It's**
23 **called Do High-Voltage Transmission Lines Affect**
24 **Property Value? And if you would please turn to**
25 **page two of that. And under the item of 2. Data,**

1 the sentence reads, the data use for this study
2 includes all arms lengths of a single detached
3 dwelling, in four separate neighborhoods, in the
4 metropolitan Vancouver area over the period of 1985
5 to 1991; is that correct?

6 A. That's what it says.

7 Q. Okay. So in terms of farm land, this
8 article has really no bearing?

9 A. It does to the extent that there is,
10 it's part of a body of literature, in general, on
11 property value impact on transmission lines, and
12 more specifically, on residences. So that helps one
13 to kind of, you know, in frame the larger question
14 of property value impacts, you know, kind of the
15 range of level of impacts. So even -- so it
16 provides, and obviously, single-family residential
17 properties, one would presume might be more
18 sensitive to the impacts of transmission lines than
19 other kinds of properties. So research reports like
20 this are useful in this kind of proceeding because
21 it helps to, you know, bracket the range of impacts
22 that might be possible.

23 Q. But we're dealing in primarily, I mean,
24 basically a rural environment. This article which
25 talks about the drop off of value, as you go in

1 distance from the power line, really has no bearing
2 because this is an urban environment, which, so you
3 have issues of sight lines, you know, in urban
4 environment, would you say that the urban clutter is
5 more likely to hide the transmission towers as you
6 get further away?

7 A. Yeah, I think that that would be a fair
8 assumption to make.

9 Q. Okay. But like in farm land, would you
10 agree that the towers stick out like a sore thumb?

11 A. I wouldn't put it -- I wouldn't put it
12 that way. There are many, many, conditions that can
13 affect the potential visibility of a transmission
14 tower, and it's, you know, the extent to which it
15 would be apparent to viewers and the landscaping.

16 Q. Well, if you have, you know, you have
17 50-foot trees and maybe 150-foot tower that would be
18 significantly taller, would it not from a longer
19 distance?

20 A. Obviously, yeah, given the physics of
21 what you're talking about. But then there's the
22 question above distance and view angle, all those
23 things.

24 Q. I understand. But I'm just asking you
25 about this.

1 A. Yeah.

2 **Q. I'm not getting into view angles.**

3 A. Yeah. Okay.

4 **Q. I don't want to get into that much**
5 **depth. So really, this article, in terms of our**
6 **situation here, and using it to say that oh,**
7 **there's, for our four rural residences,**
8 **approximately, 400 feet, 500 feet from a power line,**
9 **this article is not applicable?**

10 A. I think -- again, I think it still has
11 relevancy.

12 **Q. Just a yes or no.**

13 A. In terms of bracketing the issues and
14 getting the idea on the table that, yes, proximity
15 does have an effect.

16 **Q. I was asking for a yes or no response.**

17 A. Well, if that's -- I'm sorry, then
18 you'll have to ask me the question again so.

19 MR. DRAG: Can you re-read the question
20 to him please?

21 (Question was read back.)

22 **Q. And I'd like a yes or no answer.**

23 A. I'm sorry. This is, as indicated,
24 that's a question that can't be answered with a
25 strictly yes or no answer. And I think, I gave my

1 response that it is useful, valuable, in terms of
2 bracketing the issue and establishing the principle
3 that distance, and for other reasons, I can talk
4 about at great length --

5 Q. Okay. Thank you.

6 A. -- that distance would moderate the
7 impact.

8 Q. Okay. Thank you. Okay. I'd like you
9 to turn to page 443. First column, last paragraph,
10 and it talks about, the middle of the paragraph, it
11 says, we obtained three results. Can you please
12 read that?

13 A. Okay. I want to make sure I'm following
14 here. So the paragraph of the column on the left.

15 Q. Under conclusion.

16 A. Under conclusions. Okay.

17 Q. Second paragraph down.

18 A. Oh, okay.

19 Q. We obtain. The middle of the paragraph,
20 it says, we obtain.

21 A. Yeah, I'm thinking why don't I start at
22 the beginning of the paragraph to put this in a
23 little more context.

24 Q. I'll see. Let me look. That is fine.

25 I don't have a problem with that.

1 A. Okay. Our study also demonstrates the
2 importance of thermometric work in determining the
3 effect of transmission lines on property value. We
4 obtained three results in this regard. First, the
5 functional specification is crucial, cavalier use of
6 linear or log-linear specifications yields faulty
7 results. Second, in error terms and hedonic
8 equation is heteroscedastic for all of the
9 functional specifications we tried. This is a
10 common finding. But our work highlights how
11 important it for heteroscedasticity when trying to
12 uncover the impact of externalities and property
13 value through statistical testing. Finally, we find
14 that the functional form of the regression for
15 properties close to electric transmission lines is
16 different from that of properties far from lines.

17 **Q. Thank you. So do you agree that those**
18 **are some of the weaknesses with hedonic modeling?**

19 A. Yeah, yeah, these are issues, yeah.

20 **Q. Okay. Thank you. And would you agree**
21 **though that unless you have a good knowledge of how**
22 **these -- how they did their studies that you could**
23 **be relying on studies that are, I would say, flawed?**

24 A. Yeah, so here's a very important point.

25 **Q. Yes or no please.**

1 A. Again, this is one of those questions
2 that it's difficult, you know, to answer in a yes,
3 in a yes or a no.

4 Q. Well, let me strike the question then,
5 and I'll come back to that.

6 Okay. I'll hand you another article.
7 This I'm handing, Dr. Priestley, Electric
8 Transmission Lines and the Selling Price of
9 Residential Property.

10 Here you go.

11 Was that an article you quoted in your
12 surrebuttal?

13 A. Yes, it is.

14 Q. And I'd like to have you turn to page,
15 the second page, its 491, actually, as it's marked
16 under neighborhoods. And please read the -- well,
17 I'll just state it here. This article used two
18 separate neighborhoods in Decatur, Illinois, and
19 these are, in the sentence, do you see where it
20 says, there are pre-modern or there are modern urban
21 residential developments built primarily between
22 1957 and 1964? Do you see that?

23 A. I see that, yeah.

24 Q. Okay. So you do you agree that this
25 basically, again, is an article concerning property

1 values in an urban environment?

2 A. Well, suburban anyway, yes.

3 Q. Okay. And yes or no answer. Do you
4 agree that it has limited applicability to
5 regression analysis on property values of farm land?

6 A. Limited, but there is still some
7 relevance.

8 Q. Do you agree that it's -- okay. Strike
9 that.

10 Okay. The next article I'm going to
11 hand you -- well, I'm going to have to use the
12 screen, this was a 96-page article, and time did not
13 permit to print it off. So we are going to call it
14 up on the screen, so this is -- now, I'm showing you
15 the article on the screen, A Study of the Economic
16 Effects of High-Voltage Electrical Transmission
17 Lines on the Market Value of Real Property Values.

18 Is this an article that you cited in
19 your surrebuttal?

20 A. Yes, it is.

21 Q. Okay. Thank you.

22 Okay. I have put up on the screen, this
23 is page, well it's marked 79 in this article, and it
24 states at the top, Summary of Land Case Study
25 Conclusion.

1 **And can you read what it says about Case**
2 **Study No. 6 on the very first sentence of the**
3 **paragraph?**

4 A. Okay. It's a very important to note
5 that the first column is percentage decrease in
6 value of easement area. We're not talking about the
7 whole property, we're talking about the easement.
8 So Case Study No. 6, a 44.3 percent reduction in the
9 value of the easement area.

10 **Q. Okay. Okay. That's helpful. So there**
11 **will be a definite impact on the property value from**
12 **the transmission line. And this case six, is this**
13 **raw land?**

14 A. Yeah, as I recall.

15 **Q. Okay. It actually, if you look down on**
16 **the first sentence of the paragraph underneath the**
17 **table.**

18 A. Large residential lots.

19 **Q. No. No. Case No. 6 raw tract of land.**

20 A. Okay.

21 **Q. So you agree this is regarding raw land?**

22 A. Yes.

23 **Q. Okay. And do you have any, and this**
24 **reduction in value is one of these that you**
25 **stipulated or you specified in your surrebuttal,**

1 correct?

2 A. Excuse me?

3 Q. Let me rephrase that. This reduction
4 value was one of the articles that you said showed a
5 negative effect?

6 A. I didn't cite that particular statistic.

7 Q. Okay. Okay. But it does show --

8 A. Other findings from this, from this
9 report.

10 Q. Okay. I am going to hand you an article
11 Electric Transmission Lines: Is there an Impact on
12 Rural Land Values? By Thomas Jackson.

13 Is this an article that you cited in
14 your surrebuttal?

15 A. Yes, it is.

16 Q. Okay. Thank you. Now, if you turn to
17 the second page, the very last paragraph on the
18 first column, it's the second paragraph under sales
19 price analysis.

20 Do you agree that they used to pick
21 their, what they call offline sales, which are to
22 pick properties for their analysis, they use
23 appraisers to do comparables? Do you agree with
24 that?

25 A. I see that. Well, that's what the

1 author describes.

2 Q. Okay. So you would -- so, again, if
3 there's, if the weaknesses in picking comparables,
4 if that is evident in appraisals that type of
5 weakness could also be evident in this study; is
6 that not correct?

7 A. The difference is in this kind of study,
8 you're using a very, very large sample, which would
9 help to compensate for the difficulties that might
10 be involved in finding comparables, using a, doing a
11 traditional appraisal, where you're looking at a
12 very, very small sample.

13 Q. But it still, you do have an error of
14 factor from --

15 A. But, and this is a very, very important
16 point, because when you're doing a hedonic modeling,
17 and you specify these various factors, there isn't
18 the same need for the comparability because your
19 model can account for the variations in the
20 characteristics of the different properties
21 involved.

22 Q. Okay. Thank you. Now, if you would
23 turn to, it's page 34 of the article. And on the
24 second column, let's see, one, two, three, the third
25 full paragraph down. And it starts with, An edge

1 pattern (Figure A). Do you see that paragraph?

2 A. I do, yeah.

3 Q. And the very -- let's see. Now, if you
4 go down to the end of the paragraph, it says, the
5 diagonal pattern.

6 Can you read those two sentences
7 starting with the diagonal pattern?

8 A. Okay. The diagonal pattern (Figure D)
9 crosses over from one-third to near the middle of
10 the property. This pattern was least frequent at
11 9 percent of the total online sales used in the
12 analysis.

13 Q. Okay. My question for you is, if you
14 look at 9 percent, let's round it up to 10 percent,
15 that would mean that of their only, there's only,
16 they had 88 online sales that's shown in the column,
17 the first column under their index model chart. So
18 at 10 percent, that would be 8 properties that were
19 crossed in a diagonal pattern. Is it
20 statistically -- isn't that -- let me. Isn't that
21 too small of a sample to be statistically sound?

22 A. Yeah, I can't render an opinion on that.

23 Q. Okay. But earlier you said that you
24 would need 50 to 100 samples.

25 A. Properties in your total sample, yeah.

1 Q. Total sample?

2 A. Yeah.

3 Q. But when you have property, in these
4 studies, when you have property where the dissection
5 of the transmission line differs. For instance, in
6 this case, he talks about edge pattern. He also
7 talks about dissection, which bisects the property,
8 or if you're talking about the transmission line
9 that runs along the parcel edge, wouldn't, to get an
10 accurate reading of the cost impact, wouldn't you
11 have to go and segregate those out and run separate
12 analysis on those, because if you're lumping -- let
13 me take back just that last section.

14 A. Again, in the way it would work in
15 hedonic modeling, each of those factors would be a
16 so-called dummy variable. In the analysis it would
17 be, you know, is a diagonal crossing or not, is an
18 edge arrangement or not, and so on. So you would
19 get a value for each of those, you wouldn't be
20 running a separate model.

21 Q. Okay. But if you don't have enough of
22 the bisected properties, then you're really not
23 going to get an accurate number for the cost impact
24 on those property; is that true?

25 A. Well, what I will say, it would have

1 been ideal to have had more.

2 **Q. Okay. Okay. Well, now, if you could**
3 **turn to page 33 and the last paragraph in the first**
4 **column. So this study only measured power lines**
5 **that were 115kV to 345kV?**

6 A. That's what the author states.

7 **Q. Okay. So the applicability of this**
8 **study to a 600kV line is questionable, correct?**

9 A. I wouldn't say that at all. And if you
10 like I can explain. But, I would not I would not
11 say that.

12 **Q. Okay. Why not?**

13 A. Yeah, in terms of the impacts of
14 transmission lines, I think, the things that you
15 need to look at well, what are the physical
16 characteristics of the transmission line; what is
17 the area that is occupied by the base; what kind of
18 issues might that create for agricultural use of the
19 land right around it; how closely together the
20 towers are spaced, you know, more towers or fewer
21 towers. So in terms of kind of the scale of things,
22 there may not be such a big difference between a
23 structure of the type that's being proposed for this
24 project and the kinds of facilities that were
25 evaluated here.

1 Q. But really, to get an accurate view of
2 the impact, you should have, you had mentioned tower
3 characteristics, so you would want to go and study
4 properties where you had a 150-foot tower, you had
5 mentioned about the base of the tower, so the
6 applicability of this, which is a considerably
7 smaller tower, is, to use your phrase, gives you --
8 or to paraphrase, gives you a bracket, but really it
9 may give you some idea, but it really isn't
10 applicable, correct?

11 A. Again, I wouldn't agree with that
12 characterization.

13 Q. Okay. That's fine. Now, I would like
14 you to turn to your surrebuttal, page 23, line 16
15 through 21.

16 And do you still agree with that
17 statement?

18 A. Okay. Just to make sure that we're
19 talking about the same thing. This is on page 23,
20 and it's the answer to the first question from the
21 first issue related to the testimony of Boyd L.
22 Harris.

23 Q. Correct.

24 A. Okay. Oh, yes, absolutely, I still
25 agree with this statement.

1 Q. Okay. So he is saying that he's making,
2 as you put it, a sweeping assertions and absolutely
3 no concrete evidence?

4 A. Yes, that's what I'm saying.

5 Q. I'm going to use an analogy. Do you
6 think -- if you had a carpenter who could look at a
7 piece of wood and by feel of it, maybe texture,
8 determine the moisture content, based on his
9 experience, 20 years of experience? Versus -- and
10 he's relying on that. And then you have another
11 person uses a moisture meter.

12 Does the fact that the carpenter is
13 using his experience to make an evaluation, does
14 that make it any less valid than using a moisture
15 meter?

16 A. The moisture meter would provide
17 tangible empirical data, and this person who is more
18 scientifically oriented that's what I would go with.

19 Q. Okay. But that's because of your
20 background, it may not necessarily yield a better
21 result or a different result, hypothetically?

22 A. It might not.

23 Q. Okay. So one of the things about
24 experts is they can rely on their past experience;
25 is that not correct?

1 A. That is true, but it doesn't mean that
2 they are necessarily correct.

3 **Q. I understand. But part of the process**
4 **is to go, like this, is to go and clarify the**
5 **validity of their opinions; is that not correct?**

6 A. Certainly, you know, and just in terms
7 of the way these things work, yeah, you know, one's
8 professional experience might provide one with
9 hypotheses, but that any responsible professional
10 would do their research and test their hypotheses
11 and determine that it is correct. And in this case,
12 I didn't see any tangible evidence that Mr. Harris
13 had tested his hypotheses about what the effects
14 would be.

15 **Q. Okay. Okay. What I am showing you is**
16 **rebuttal testimony of Boyd L. Harris on behalf of**
17 **Matthew and Christina Reichert.**

18 **Did you review this document?**

19 A. Yes, I did.

20 **Q. Okay. Now, if you would go and read,**
21 **starting on -- well, we asked the question, do you**
22 **have any additional information to support this**
23 **opinion? And can you read what Mr. Harris says**
24 **please.**

25 A. I'm sorry. It's hard. The logistics

1 here are kind of awkward.

2 How would you quantify the damages?

3 This approach to quantifying this damage
4 will be multi-pronged --

5 **Q. I'm sorry. You skipped down too far. I**
6 **said start after question 16.**

7 A. Oh, yeah. I'm sorry.

8 **Q. That's okay. We'll get to the other**
9 **one.**

10 A. Okay.

11 Do you have any additional information
12 to support this opinion?

13 We have additional data that will be
14 relevant, but this is, for the most, proximate
15 example of the economic damage that a project such
16 as this can impart on a tract of agricultural land.
17 Within our office in Centralia, and with my
18 associates at the Salisbury, Missouri, and Lapeer,
19 Michigan, we will be able to provide further support
20 to value the potential damages to the Reichert's
21 property.

22 **Q. Okay. And now, can you read, after the**
23 **question: How would you quantify the damages? Can**
24 **you read the next three lines please?**

25 A. Okay.

1 How would you quantify the damages?

2 This approach of quantifying this damage
3 will be multipronged. First, a pairing of sales of
4 easement impacted versus non-easement land. Second,
5 a consideration of lost income to property,
6 capitalized to a value conclusion with appropriate
7 methodology.

8 **Q. Okay. Thank you. So based on what he**
9 **wrote here in his rebuttal, he is saying that he**
10 **made an opinion based on his experience of what the**
11 **impact would be on their land. But he then follows**
12 **up to say that he would do a detailed analysis to**
13 **arrive at a valid value. So your statement, both**
14 **claims are sweeping assertions, have absolutely no**
15 **concrete evidence, really fails to take into account**
16 **the fact that he is going to perform that analysis,**
17 **if required?**

18 A. Well, what can I say? He's describing
19 what he will do as a part of his testimony. He did
20 not do the analysis, and he did not provide it to
21 everyone to look at, to see, well, what are his
22 assumptions? What's his methods? What are his
23 in conclusions? You know, how does he support these
24 sweeping assertions that he made? If he had
25 provided this as a part of this proceeding, you

1 know, my response may have been quite different.

2 But I have absolutely nothing to go on. I mean,

3 these -- come on. These studies that are locked up

4 in their files in their offices, can't help us here

5 at this proceeding because we don't have access to

6 them.

7 **Q. But, wouldn't going and doing that study**
8 **be, in your experience, cost a considerable amount?**

9 A. Yes, it could have been costly, but if
10 this is evidence he wanted to be part of this
11 proceeding, it seems like, you know, they would have
12 done it.

13 **Q. Well, but you're looking at a small land**
14 **owner, limited resources, who are trying to defend**
15 **their property rights. Do you feel that it is fair,**
16 **from a personal perspective, to go and force them,**
17 **at this stage of the process, to spend money, which**
18 **they may not have, in trying to defend their rights?**

19 MR. STEELE: Judge, I would object on
20 the basis that this line of questioning is getting
21 pretty argumentative. And the effect on a single
22 piece of property is not necessarily relevant to
23 this commission's determination.

24 JUDGE BUSHMANN: I'll sustain on
25 argumentative.

1 MR. DRAG: Okay. Thank you, your Honor.

2 Q. If you turn to page 24 of your
3 surrebuttal. You state this anecdote where he's
4 referring to a property that was sold in a
5 neighboring county in Missouri. This anecdote has
6 no relevance to the question of the potential
7 effects of the Grain Belt Express on his client's
8 property.

9 Do you still agree with that?

10 A. Yes, I do.

11 Q. Okay. And so his description, if you go
12 back up, about the parcel in Randolph County, his
13 description of that in his testimony was anecdotal?

14 A. In terms of rules of evidence, I would
15 say that this is an anecdote.

16 MR. DRAG: I move to strike that because
17 he's offering a legal opinion. He says, based on
18 the rules of evidence.

19 JUDGE BUSHMANN: Overruled.

20 MR. DRAG: Okay. Thank you.

21 Q. Did you receive the, review the first
22 set of data requests from Grain Belt to my clients?

23 A. I did not.

24 Q. Okay.

25 MR. DRAG: Your Honor, I'd like to

1 introduce Exhibit 558.

2 JUDGE BUSHMANN: All right.

3 Q. Okay. So you have never seen this
4 document?

5 A. I have not.

6 Q. Okay. Did you ask for any additional
7 supporting information from Grain Belt that, as a
8 follow up, for preparing your surrebuttal? Let me
9 rephrase that. After you received the rebuttal
10 testimony of Mr. Harris, and after having read that,
11 did you ask them for any follow-up information?

12 A. I did not.

13 Q. Okay.

14 MR. STEELE: Mr. Drag, I have a
15 question. Do you know the date of these responses?

16 MR. DRAG: I could tell you here. We
17 provided that to you on October 4th.

18 MR. STEELE: Thank you.

19 MR. DRAG: You're welcome.

20 Q. So if you would turn to page 2. Can you
21 please read the data request number four?

22 A. Please provide all copies of documents
23 regarding the appraisal and sale of the property in
24 Randolph County, Missouri referred to by Mr. Harris
25 in his rebuttal testimony at page 3.

1 **Q. Okay. And then our response was? Can**
2 **you read that please?**

3 A. Please refer to Attachment 4.1
4 Mr. Harris's comments are, and then --

5 **Q. Okay. It goes on.**

6 A. This goes on for a couple pages. I
7 don't know whether you want me to read this?

8 **Q. No, don't read that. But he goes in and**
9 **does a detailed explanation based on just a very**
10 **quick purview. Do you agree he gives a description**
11 **of the property in the situation?**

12 A. Well, I'd have to kind of scan this to
13 be able to, you know, render any kind of judgment or
14 any conclusion as to exactly what is here and how
15 helpful it is.

16 **Q. Right. But he does describe --**

17 A. I see that there is some kind of a
18 description here.

19 **Q. Okay. Good. And then he also, if you**
20 **turn to the screen, has the Attachment 4.1, he**
21 **produced the plat maps, settlement statements.**

22 JUDGE BUSHMANN: Would you use your
23 microphone please?

24 MR. DRAG: I'm sorry.

25 **Q. So he was producing the supporting**

1 documentation for that property and that sale in the
2 attachment. So based on that, do you feel -- would
3 you still say that his comments are anecdotal?

4 A. From the point -- from the point of view
5 of a single, a single subdivision with a single sale
6 or not sale, I would still say that just in terms of
7 the kinds of evidence, we consider in making
8 decisions that it's still anecdotal.

9 Q. But it's actually based -- an anecdote,
10 this is based on, even though it's one item, it is
11 based on fact, so it's not an anecdote, correct?

12 A. Well, let's -- do you want to define
13 anecdote?

14 Q. Okay. That's fine.

15 A. Yeah.

16 Q. If we go on, if you go back to your
17 surrebuttal page 24, and down on line 9, there's a
18 reference to -- Mr. Harris makes a reference to
19 white papers. And you say this is hearsay and not
20 evidence. Do you still agree with that statement?

21 A. I do.

22 Q. Okay. Now, if he did produce at least,
23 I mean -- now, if you turn to Exhibit 558, and if
24 you read number five, the request by Grain Belt
25 please.

1 A. It says: Please provide copies of the
2 white papers referred to by Mr. Harris in his
3 rebuttal testimony at page 4 that were provided by
4 colleagues in his company's Lapeer, Michigan office.

5 And the response says: Please refer to
6 attachment 5.1.

7 **Q. And I have that attachment up on the
8 screen. Can you read the title of it please?**

9 A. Yeah, this is an article that's out
10 there in the literature called, Power Lines and
11 Property Values: The Good, The Bad, and The Ugly.

12 **Q. Okay. Thank you.**

13 **So he did go and produce the white paper
14 he was referring to; isn't that correct?**

15 A. From here, I see that that was the case.

16 **Q. Okay. Thank you. And now, if we go
17 down to your surrebuttal, page 24, line 16. And you
18 state, you know, you discuss Mr. Harris's reference
19 to a newspaper article?**

20 A. Yes.

21 **Q. Now, this newspaper article he referred
22 to described the loss of property value on a
23 property in New Hampshire; is that not correct?**

24 A. That's not exactly, exactly a true
25 characterization of what this article is.

1 Q. Okay.

2 A. What this is article is, it's a story
3 that reports on an appraisal that was done for
4 owners of a property in New Hampshire that had the
5 potential to be crossed by one of the alternative
6 routes of The Northern Pass transmission line. So,
7 again, it was a report on an appraisal.

8 Q. Okay. No. That's fine. Thank you for
9 the clarification.

10 Now, I'm going to show you page 6 of his
11 rebuttal testimony. And we asked him, did he read
12 any other articles at the request of the Reicherts.
13 And he said he reviewed The Northern Pass article.
14 And our question to him was that the decreases, are
15 they good examples of the property values based on
16 his experience? So, we were, in essence, could his
17 reading of that article be considered a
18 hypothetical?

19 A. I don't know about that, but it would
20 have been better for all concerned for us to have
21 seen the original appraisal.

22 Q. Okay. Well, then I will direct you to
23 page 5 of our response to Grain Belt's request. Can
24 you -- okay. Do you have that on Exhibit 558, page
25 5?

1 A. Okay.

2 Q. Item number 6. And can you read the
3 data requests please?

4 A. With regard to The Northern Pass project
5 discussed in the article cited by Mr. Harris in his
6 rebuttal testimony on page six, please state whether
7 he has appraised property in New Hampshire or the
8 province of Quebec. If so, please provide copies of
9 all appraisal of other studies he has conducted of
10 such properties.

11 Q. Okay. Now, if you go down to the very
12 last paragraph on that page. And can you read that
13 please?

14 A. Yeah. Please refer to Attachment 6.1
15 for the appraisal report for The Northern Pass
16 project that became available during the week of
17 October 7th.

18 Q. Thank you. That's good.

19 Now, this is Attachment 6.1 that we have
20 provided to Grain Belt. Have you seen this
21 document?

22 A. I have not.

23 Q. Okay. And I will state that it's a
24 112-page document, and details the appraisal of that
25 property. And it was filed -- and as you can see,

1 it was filed with the Office of Electricity Delivery
2 and Energy Reliability. And it's in regards to
3 Northern Pass Transmission LLC application for
4 residential permit OE Docket No. PP-371.

5 So is that -- so you have never seen
6 that document?

7 A. I have not.

8 Q. Okay. Thank you.

9 Now, if you go and turn to page 6 of the
10 data requests, you will see where, under the line
11 that says, Mr. Harris's comments regarding
12 methodology are. And just read the first couple of
13 sentences.

14 A. In general, the report appears to be
15 properly developed; however, there was a point on
16 which I was not clear as to why the appraiser had
17 developed them. The data value was April 2011, and
18 it would appear that he made the conclusion that the
19 market had stabilized by July 2010, and he had data
20 to support a time adjustment for sales prior to
21 that.

22 Q. Okay. That's good. Thank you.

23 So he did go and then provide to Grain
24 Belt his review of that appraisal?

25 A. Well, apparently, he did.

1 Q. Okay. Thank you.

2 I'm almost done.

3 Now, are you familiar with artificial
4 neural networks in the use of appraising prices?

5 A. I am not.

6 Q. Okay. That's not the one I want. Here
7 we go. So I put up on the screen, can you read the
8 title of the article? I'm sorry. Can you state it
9 out loud please?

10 A. Oh. I'm sorry.

11 Q. That's okay. I didn't make myself
12 clear.

13 A. So the title of this is Neural Network
14 Hedonic Pricing Models in Mass Real Estate
15 Appraisal.

16 Q. And can you read just the abstract of
17 this? Well, I'll withdraw that.

18 Okay. Yeah. Read the first several
19 sentences of the abstract please.

20 A. Okay. Using a large sample of 46,467
21 residential properties spanning 1999 to 2005, we
22 demonstrate using matched pairs that relative to
23 linear hedonic models artificial neural networks
24 generate significantly lower dollar pricing errors,
25 have greater pricing precision out-of-sample, and

1 extrapolator better from more volatile pricing
2 environments.

3 Q. Okay. Thank you. So would you -- so
4 you state you have no familiarity at all with neural
5 networks?

6 A. That's true.

7 Q. Okay. So you cannot state whether or
8 not neural networks are actually a preferred or a
9 better method?

10 A. That's true.

11 Q. Okay. Okay. And -- okay.

12 MR. DRAG: I have no more questions,
13 your Honor. Thank you for your patience.

14 JUDGE BUSHMANN: Do you intend to offer
15 those two, Exhibits 557 and 558?

16 MR. DRAG: Yes. I would like to offer
17 Exhibits 558 and 557 into the record please.

18 JUDGE BUSHMANN: Are there any
19 objections?

20 MR. STEELE: No objection.

21 JUDGE BUSHMANN: Hearing none. 557 and
22 558 are received into the record.

23 (REICHERTS AND MEYERS EXHIBITS 557 AND 558
24 RECEIVED INTO EVIDENCE.)

25 JUDGE BUSHMANN: This would be a good

1 point to have a small break. Why don't we go into
2 recess until about 10:35.

3 (Recess was taken.)

4 JUDGE BUSHMANN: Next up for
5 cross-examination would be Show Me Concerned
6 Landowners.

7 MR. JARRETT: Thank you Judge.

8 CROSS-EXAMINATION BY MR. JARRETT:

9 Q. Good morning, Dr. Priestley. I'm Terry
10 Jarrett and I'm representing the Show Me Concerned
11 Landowners as well as the Missouri Farm Bureau.

12 I note on the first page of surrebuttal
13 that your business address is Los Angeles; is that
14 correct?

15 A. That's true.

16 Q. Are you also a resident of California?

17 A. I am.

18 Q. Are you a Licensed Real Estate Appraiser
19 in California?

20 A. I am not.

21 Q. Are you a Licensed Real Estate Appraiser
22 anywhere else?

23 A. I am not.

24 Q. Okay. I wanted to ask you some
25 questions about some of your, you have numerous

1 cites to different studies, correct, in your
2 surrebuttal?

3 A. That's correct.

4 Q. And I wanted to ask you about some of
5 those. Footnote number 1. I believe, you're the
6 coauthor of that report or study, weren't you?

7 A. That's true.

8 Q. Okay. Now, I'm going to ask you if I'm
9 reading this correctly. Under the executive summary
10 of that paper, it says:

11 What have we learned?

12 Although in many ways the research
13 accomplished is still incomplete, a number of
14 findings emerged from recent studies. The most
15 important points are the following:

16 1. Overhead transmission lines have the
17 potential to reduce the sales price of residential
18 and agricultural property.

19 2. The effect, especially, for single
20 family homes is generally small (from 0 to 10
21 percent) but has been estimated to be greater than
22 15 percent in some specialized cases in rural areas.

23 Did I read that portion of your study
24 correctly?

25 A. Well, since I don't have a copy of that

1 text right here in front of me, I can't say for
2 sure, but, you know, it sounds like that's what I
3 said.

4 **Q. Will you accept, subject to check, that**
5 **I read that correctly?**

6 A. Yes.

7 **Q. Now on page 2.**

8 A. Of?

9 **Q. Of your surrebuttal. I'm sorry.**
10 **Footnotes 2, 3, and 4. There are, looks like three**
11 **articles that you wrote, well, they all have the**
12 **same title, but they have different dates. Was this**
13 **basically a report that you prepared?**

14 A. Yeah, these are reports rather than
15 articles. And essentially, what they are updates of
16 the literature review that Cynthia Kroll and I did
17 in the 1990s. I did a thorough search and came up
18 with everything that's been done since selective
19 with close scrutiny and came up with some
20 conclusions.

21 The first of these was prepared for
22 presentation to a committee of the Virginia State
23 Legislature. The second was entered as evidence in
24 the hearings for the New York Regional Interconnect
25 Transmission Line Project. And then the third one,

1 third version, and the most latest review is one
2 that I prepared for the Montana Department of
3 Environmental Quality. In this case, my firm was
4 working as consultants to the state, the regulatory
5 agency that was responsible for permitting a 500kV
6 transmission line through Montana and Idaho that was
7 being considered at the time. So anyway, the third
8 of these is the most recent and most updated of
9 these reviews.

10 **Q. And I did a search on the Internet for**
11 **these, and I couldn't find them. Do you know, are**
12 **they available publically on the Internet?**

13 A. Yeah, you know, I have to confess for
14 having done a Google search under my own name, and
15 I've come up with a number of these certainly like
16 the NYRI one and the New York one and even the
17 Montana one, because they are all a matter of public
18 record. I mean, they have been filed as a part of
19 proceedings. So if you know how to look on the
20 Internet, they are out there.

21 **Q. Yeah. And I was asking specifically**
22 **these three. I love Google, obviously. I did some**
23 **Google searches and found several of these, but**
24 **these three I wasn't able to find. I just wondered**
25 **if you had any knowledge today where I might be able**

1 to pull those up, if you know?

2 A. Well, maybe, Jonathan can comment on
3 this. You know, in response to a data request from
4 the Reicherts and the Meyers, we provided copies of
5 everything. So I don't even know exactly how this
6 works in Missouri. Are those now a part of the
7 public record in the proceedings?

8 Q. Well, I can check with Mr. Drag.

9 Continuing on with your surrebuttal
10 testimony. Footnote 5. This is the Kinnard and
11 Dickey, 1995: A Primer on Proximity Impact
12 Research: Residential Property Values Near
13 High-Voltage Transmission Lines.

14 Did I read that correctly?

15 A. Yes.

16 Q. And then you had footnote 7. And this
17 is another, another article that you coauthored
18 1996, Resident Perceptions of Nearby Electric
19 Transmission Line, in the Journal of Environmental
20 Psychology.

21 Did I read that correctly?

22 A. Yes.

23 Q. And is it true that this study dealt
24 with questionnaires mailed to 425 residents of two
25 adjacent neighborhoods within 900 feet of

1 high-voltage transmission lines in a suburban
2 neighborhood 28 miles north of San Francisco?

3 A. Yeah. That's all true. I did it
4 myself, so I'm very familiar with it.

5 Q. Thank you. And then on page 5 of your
6 surrebuttal, let's see. Footnote 8. The Kinnard,
7 Geckler and Dickey report, Fear as a Measure of
8 Damages Strikes Out: Two Case Studies Comparisons
9 of Actual Market Behavior with Opinion Survey
10 Research.

11 Did I read that correctly?

12 A. Yes.

13 Q. And did that report discuss a list of
14 claimed perceived hazards including water
15 contamination from toxic and hazardous materials;
16 soil contamination from toxic, hazardous materials;
17 air contamination from toxic, hazardous and nocuous
18 materials; noise from airports or highways;
19 radiation from various sources; electromagnetic
20 fields; and hazardous and toxic landfills or waste
21 storage facilities; is that accurate?

22 A. You may be thinking of another study.

23 Q. Okay. But subject to check, would you
24 agree?

25 A. Yeah.

1 Q. Okay. And then footnote 9. The title
2 of the document you cite there is: Effects of
3 Proximity to High-Voltage Electric Transmission
4 Lines on Sale Prices and Market Values of Vacant
5 Land and Single-Family Residential Property.

6 Did I read that correctly?

7 A. Yes, you did.

8 Q. And then on page 7 of your surrebuttal,
9 footnote 10. The title of the report that article,
10 report, study, whatever that you cite is: A Primer
11 on Proximate Impact Research: Residential Property
12 Values Near High-Voltage Transmission Lines.

13 Did I read that correctly?

14 A. Yes, you did.

15 Q. And footnote 11. The Boyle and Kiel
16 study, titled: A Survey of House Price Hedonic
17 Studies of the Impact of Environmental
18 Externalities.

19 Did I read that correctly?

20 A. Yes. Yes.

21 Q. And then number 12. I believe that's
22 the same article that's cited in footnote 10.

23 A. Yes, it is.

24 Q. And then on page 8, footnote 13. The
25 title of that study is: A Study of Transmission

1 **Line Effects on Subdivisions in Harris County,**
2 **Texas.**

3 **Did I read that correctly?**

4 A. Yes, you did.

5 **Q. And then on footnote 14. The title of**
6 **that report is: Impacts on Residential Property**
7 **Values Along Transmission Lines; an Update Study of**
8 **Three Pacific Northwest Metropolitan Areas.**

9 **Did I read that correctly?**

10 A. Yes.

11 **Q. And then on page 9 of your surrebuttal,**
12 **footnote 15. The title of the study that you cite**
13 **there is: Transmission Line Impact on Residential**
14 **Property Values, a Study of Three Pacific Northwest**
15 **Metropolitan Areas.**

16 **Did I read that correctly?**

17 A. Yes.

18 **Q. And then if you drop down to footnote**
19 **20, the third citation there with Kinnard, Geckler,**
20 **and J. DeLottie, 1997, the article is entitled, or**
21 **the report is entitled: Post-1992 Evidence of EMF**
22 **Impacts on Nearby Residential Property Values.**
23 **Price Effects from Publication and Widespread**
24 **Publicity about the Floderus, and Ahlborn-Feychting**
25 **studies in Sweden.**

1 **Did I read that correctly?**

2 A. Yes.

3 MR. STEELE: Judge, does Mr. Jarrett
4 have a question for Mr. Priestly?

5 MR. JARRETT: Yes, I'm asking if I'm
6 reading these correctly.

7 MR. STEELE: I think we'll stipulate to
8 the contents of Mr. Preistley's testimony.

9 JUDGE BUSHMANN: Are you --

10 MR. JARRETT: Well, these are his cites.
11 I'm just asking him if I'm reading them correctly.

12 JUDGE BUSHMANN: They're willing to
13 stipulate to the contents of the footnotes. Is that
14 acceptable?

15 MR. JARRETT: Sure.

16 MR. STEELE: Thank you.

17 **Q. Let's go to footnote 21. The Hamilton
18 and Schwann study. Now, the conclusion on page 443
19 states, high-voltage electric transmission lines do
20 have an effect on property value. We find that
21 properties adjacent to a line lose 6.3 percent due
22 to proximity and the visual impact.**

23 **Do you recall that from the article?**

24 A. What you're reading sounds familiar.

25 Yeah, it's what I recall.

1 Q. Okay. And then the Chalmers study.

2 A. Which one?

3 Q. It would be the very next one,
4 underneath that on footnote 21. Chalmers and
5 Voorvart. On page 227, it states: Over time, there
6 is a consistent pattern with about half the studies
7 finding negative property value effects and half
8 finding none.

9 Does that appear on page 227?

10 A. Well, you know, I don't have a copy of
11 this in front of me.

12 Q. Would you --

13 A. I can't attest to that. But, having
14 just reread this, it sounds like something that they
15 could have said. And, you know, it's very
16 consistent with what everyone is saying.

17 Q. Okay. Now, on page 11, of your
18 surrebuttal testimony, and I'll direct you to lines
19 3 through 12. And there you indicate to the
20 question:

21 Does the presence of high-voltage
22 overhead transmission lines on agricultural land
23 typically affect the value of that property?

24 And you answer no, correct?

25 A. Yes.

1 Q. And then you state that there are eight
2 or so major studies regarding the effects of
3 transmission lines on sale prices of agricultural
4 lands, approximately, half have found the
5 transmission lines crossing the parcels sold did not
6 have a statistically significant impact on the
7 selling price. Correct?

8 A. Correct.

9 Q. And then you further state, some studies
10 found a level of effect. Correct?

11 A. That's correct.

12 Q. For example, the study in agricultural
13 lands in Arizona, Thomas A. Ball found a decrease in
14 sales of 2 percent. Correct?

15 A. That's correct.

16 Q. And then you found a study in Ontario
17 that it found no effects in two of the six areas
18 studied. And it actually had positive effects in
19 some areas. Correct?

20 A. That's correct.

21 Q. And then you indicated in the remaining
22 two areas, there was a potential for -- where there
23 was a potential for residential development, there
24 was a negative effect.

25 A. Yeah, that's what this report concluded.

1 **Q. Now, do you still have a copy of Exhibit**
2 **557 that Mr. Drag gave you?**

3 A. 557?

4 **Q. It's the one where it's number 23 is at**
5 **the top.**

6 A. Okay. This exhibit is just a single
7 page, it's page five from my response to the data
8 request.

9 **Q. Correct. And in that, would you go down**
10 **to number 24. And let's see, line 4, the sentence**
11 **beginning, in one case?**

12 A. Okay.

13 **Q. Would you read that sentence, in one**
14 **case?**

15 A. Okay. In one case, the multiple
16 regression modeling found the impact effect to be in
17 the range of -6 percent, in the other -17 percent.
18 In both cases, the authors observed that the
19 transmission lines were located in areas where real
20 estate development was likely to occur leading the
21 authors to conclude this tends to support the
22 hypothesis that land that could be developed for
23 residential as opposed to agricultural purposes is
24 more vulnerable to a negative impact of a
25 transmission line than is land, which is strictly

1 used for agricultural purposes.

2 Q. Now, did you attend any of the local
3 public hearings in this case?

4 A. I did not.

5 Q. Did you read any of the transcripts of
6 any of the local public hearings in this case?

7 A. I did not.

8 Q. Did you read any of the comments filed
9 by the public in this case?

10 A. I did not.

11 Q. Have you talked to any of the landowners
12 along the route in this case?

13 A. I have not.

14 Q. So you don't know whether or not any of
15 those landowners are planning real estate
16 development on their property?

17 A. That's true.

18 Q. Do you remember when Mr. Drag was asking
19 you a question and you were talking about the
20 Montana, a situation in Montana, and you talked
21 about the specific characteristics of the land there
22 in Montana. Do you remember that exchange?

23 A. I do.

24 Q. Okay. Might the impact of a
25 transmission line on property values vary from one

1 location to another depending on factors such as
2 people's attitudes and unique characteristics of the
3 land?

4 A. Is that a question?

5 Q. Yes.

6 A. Now, are you reading something --

7 Q. I'm asking you --

8 A. -- from the article or?

9 Q. No. I'm just asking you a question.

10 Might the impact of a transmission line on property
11 values vary from one location to another depending
12 on factors such as people's attitudes and unique
13 characteristics of the land?

14 A. I would say unique characteristics of
15 the land could have an effect.

16 Q. Okay. Thank you. Are you aware of any
17 analysis or study of the impact from the Grain Belt
18 line on property value in the eight counties in
19 northern Missouri where the line will be located?

20 A. I am not.

21 Q. And I think I'm just almost done,
22 Dr. Priestley. I think I have one more question.

23 Page 17 of your surrebuttal. There at
24 the top of the page. And let me see if I'm -- I
25 don't want to read this. I'll just paraphrase it.

1 Well, I'll just ask you the question based on your
2 answer there.

3 Is it fair to characterize this, is that
4 you disagree, as a statistician, you disagree with
5 the methods that real estate appraisers use to
6 determine values?

7 A. You know, not necessarily. I want to be
8 very careful with, you know, to give a clear
9 response to that. The whole profession of real
10 estate appraisal has, you know, developed and it
11 provides, it fills a very, very important role of
12 providing specific appraisals on specific properties
13 that, you know, are very useful part of, you know,
14 the upcoming transactions, so appraisers and their
15 traditional methods do play a very important role in
16 that context. However, when we move from the
17 appraisal of individual properties to more global,
18 trying to develop a more global understanding of, in
19 general, how does a facility like a transmission
20 line effect the value of properties that they cross
21 or travel close to? Then the statistical approach,
22 using very, very large samples and using more
23 powerful analytic tools like hedonic modeling are
24 the appropriate way to develop insights that have a
25 value for, you know, public decision making about

1 projects like this in general. As opposed to
2 working out agreements with related to a specific
3 sale of property.

4 **Q. So the answer to my question then would**
5 **be, yes, you feel your method is superior to the**
6 **methods used by the real estate appraisers?**

7 A. For this particular purpose of
8 generating, you know, insights that are useful for
9 public policymaking about facilities and their
10 effects.

11 **Q. All right. Well, thank you.**

12 MR. JARRETT: I have no further
13 questions.

14 JUDGE BUSHMANN: Missouri Landowners
15 Alliance?

16 MR. AGATHEN: I have no questions, your
17 Honor.

18 JUDGE BUSHMANN: Questions from the
19 commissioners? Mr. Chairman?

20 CHAIRMAN KENNEY: No, I don't think I do
21 have any questions. Thanks for being here, sir.

22 THE WITNESS: Thank you.

23 COMMISSIONER STOLL: I have no
24 questions.

25 COMMISSIONER RUPP: I have no questions.

1 QUESTIONS BY COMMISSIONER KENNEY:

2 Q. Welcome to Jefferson City,
3 Dr. Priestley.

4 A. Well, thank you.

5 Q. Not an easy place to get to, is it?

6 A. No, it's not. No, it's not. And I've
7 always wanted to come here because a little known
8 fact is some of my family lived for a long time in
9 Calwood, so I visited there, but I never made it to
10 Jefferson City. So now, I feel like I'm closing the
11 loop.

12 Q. There you go. And I noticed you
13 received your doctorate and postgraduate degrees
14 from Berkeley?

15 A. I did.

16 Q. My father received one of his degrees
17 from Berkeley, a masters. And I have a sister that
18 went there.

19 A. Oh, wonderful.

20 Q. Good school. But then my father
21 progressed and went to Stanford for his doctorate.

22 A. Well, I was just telling somebody, I had
23 to explain to my kids after a couple summers in Cal
24 camp my kids were like rabid anti-Stanford haters.
25 But I had to sit them down and explain to them that

1 this is just a friendly rivalry. And the reason why
2 we can be rivals with Stanford is they are just as
3 good as us. And if they were going to go to
4 Stanford, I would be very happy.

5 Q. There you go. Dr. Priestley, I had a
6 couple of questions for you. On your surrebuttal
7 testimony on page 8, the question on line 15 says:

8 Does the presence of high voltage
9 overhead transmission lines on or near a
10 single-family property affect the value of that
11 property?

12 And it says that the report says that,
13 most of the research has no effect on value of
14 nearby single-family residences.

15 Is that correct?

16 A. Yeah, it's kind of split, it's about
17 half and half.

18 Q. Half and half?

19 A. Yeah.

20 Q. Let me ask you a question. Have you
21 ever studied the effect of communication towers? I
22 mean, like the cell towers go about 300 feet and
23 they go up, I think, 1320 is the highest that a
24 tower can go on a communication tower.

25 A. Yeah, you know, it just so happens I

1 just finished doing a review of a book on property
2 value impacts of transmission lines, wind farms, and
3 communications towers. And it provides a very nice
4 summary of the research on that topic, so it's
5 something that, you know, if you're interested in
6 that topic, you might want to get a hold of it.
7 Although, in a way, I found the research that was
8 reported on related to cell towers to be, maybe not
9 completely satisfying.

10 **Q. Cell towers or I was thinking more of a**
11 **communication towers --**

12 A. No.

13 **Q. -- like the television tower?**

14 A. Yeah.

15 **Q. I think they go up to a quarter mile?**

16 A. Yeah.

17 **Q. I think FAA. Is there a similar effect**
18 **with those as there are with transmission lines and**
19 **towers?**

20 A. Well, all I can tell you is based on the
21 review of the chapters in this book that I just
22 reviewed that dealt with these kinds of towers that,
23 yeah, in some cases, and that is probably more cell
24 towers, which are not as tall that there was a small
25 level of impact particularly for homes, you know,

1 very, very close.

2 Q. Yeah, but I'm curious about the
3 communication towers.

4 A. Yeah. That's an interesting question.
5 I'm afraid, you know, I haven't looked the research
6 in that area, but, you know, it's a very --

7 Q. So you have not studied that?

8 A. No, I have not done any studies of those
9 kinds of facilities.

10 Q. Okay. Going on. On page 10 of your
11 surrebuttal, there's a question on line 4. It says:

12 Does the presence of high-voltage
13 transmission lines on or near a parcel of vacant
14 residential land affect the value of the property?

15 And then on the second, on page 7,
16 Blinder says, found no effect on the value of lots
17 in one subdivision and a negative effect on the
18 value of lots in another. In a study in Maine,
19 Kinnard found that the 345kV line did not have
20 statistically significant effect on the sales price
21 of the vacant parcels with potential for development
22 for residential use. A study of vacant land with
23 potential for residential use along the route, blah,
24 blah, blah, found that did not have a significant
25 effect.

1 Do you think, in your professional
2 opinion, do you think that a transmission line has a
3 negative effect on the sale of a parcel of land?

4 A. I guess, my professional opinion based
5 on all the research, based on all the research that
6 I have reviewed, I think depending upon the
7 circumstances, there's a possibility that it could
8 have a small effect.

9 Q. Okay. If I have -- if I own -- just
10 listening to all the testimony, if I own a piece of
11 property, and I have a house and behind my house is
12 a grove of trees. And I can look back there and see
13 I have that piece of property. Here's my house.
14 And, now, I have that same house that same view, but
15 instead of a grove of trees, I have a transmission
16 line.

17 Does that have a negative effect on the
18 value of that home?

19 A. Yeah, it probably would. The research
20 suggests if the house is like immediately adjacent
21 to a tower, the probability of effect --

22 Q. The probability. Are you saying there's
23 a probability, or, I mean, just, you and I talking.

24 A. Yeah.

25 Q. You don't think that there's an absolute

1 effect on that house, positive, negative effect. I
2 mean, a negative effect. That's kind of an
3 oxymoron.

4 A. Yeah. I would say that, you know, that
5 there's a probability and it's probably high, but
6 there are so many, you know, factors that go into,
7 you know, decision about purchase of a property that
8 --

9 Q. To quote a very astute commissioner, I
10 find that astounding. I've been a real estate
11 broker for 25 years. I'm a residential new home
12 developer, new home contractor. I've studied this.
13 I've seen the effect that a transmission line has.
14 As a developer, I literally had to fight a
15 communication tower that was going in next to my
16 property. The channel 9 had a seven year -- they
17 had to wait seven years for the FCC or FAA to
18 approve it. They never notified any of the
19 landowners.

20 I did a study, found out that everywhere
21 one of these towers was you had a little blighted
22 area around it. So I'm not saying you're having a
23 blighted area, I understand, it's a rural area. But
24 as a realtor, I know the effect that a transmission
25 line has on the buyers and the sellers of that home.

1 It has a negative effect. I think any appraisal
2 will show you that. So I'm not -- to say that it
3 could have an effect, I think, is a misstatement.
4 But it does have an effect. And that's what these
5 homeowners, obviously, are fearful of. So I
6 appreciate your professionalism and stuff, but I
7 really think it does have, absolutely has a negative
8 effect on the value of a home. As in my profession,
9 I see that. I guess that's not a question that's a
10 statement.

11 A. Yeah.

12 Q. So you still say, it's just a
13 probability? Is that what you're saying there's a
14 probability that it might?

15 A. Yeah. And if you're right next to -- if
16 you're right next to a transmission tower, the
17 probability would be high. But the ultimate effect
18 would depend upon a lot of contextual factors.

19 Q. Okay. Well, I'd say the probability is
20 100 percent that that's a negative value to that
21 home. That doesn't have anything to do with whether
22 the line goes in. I just think it's obvious it's a
23 negative effect.

24 Do you agree it's a negative effect?

25 A. You know, I wouldn't say that it's

1 always quite so obvious. Because, you know, in some
2 cases, the studies have found that in residential
3 subdivisions, if you are adjacent to the right of
4 way and not right next to the transmission tower,
5 there can actually be a small positive effect of
6 having the open space behind your property.

7 **Q. Okay. So if there's a transmission line**
8 **here and you're buying one of the houses, if you're**
9 **within, away from the tower --**

10 A. Yeah.

11 **Q. -- that could be a positive effect**
12 **opposed to one that's backed up to the tower?**

13 A. Yeah, exactly, yeah.

14 **Q. But if you're across the street and you**
15 **don't have the tower or a line behind you.**

16 A. Yeah.

17 **Q. Have you studied the effect how that**
18 **would be comparable?**

19 A. Yeah, you know, I worked on a study that
20 did exactly that kind of thing, looked at a number
21 of residential subdivisions in northern California,
22 with homes --

23 **Q. What part of northern California?**

24 A. This was in Solano County, which is just
25 north of San Francisco.

1 **Q. I was born in San Francisco. I grew up**
2 **and lived in Castro Valley for a little bit.**

3 A. Oh, golly. So you probably know Vallejo
4 and Fairfield. So we had a number of neighborhoods
5 --

6 **Q. Got a sister in Monte Rio right now.**

7 A. Wow.

8 **Q. Okay. But anyway, so what did your**
9 **study find?**

10 A. So, you know, in that particular study,
11 we found that actually, the distance, your distance
12 from the transmission tower didn't have much of an
13 effect. It could have been because of the rolling
14 nature of the terrain. You know, if you're across
15 the street and a little bit elevated, you might have
16 a straight shot.

17 But other studies actually have found
18 that any impact on property value tapers off pretty
19 quickly with distance and the different studies
20 report different things. But they suggest that the
21 impact is greater within the first 50 feet or so,
22 and then depending upon which study that it tapers
23 off to close to 0 at 200 feet, 300 feet, 400 feet,
24 kind of in that range. Suggesting that there's a
25 taper.

1 Q. Nobody wants a tower or transmission
2 line in their backyard. I can understand that.
3 Everybody wants electricity, but nobody wants the,
4 just like a highway or when you build a house and
5 you have two roads, because you have a collector
6 street and a residential street. That's difficult.

7 But my question before was, have you
8 studied the value of the home that's say right here
9 with the transmission line in back of it and the one
10 across the street. Is there a difference in
11 property values there? Have you studied that?

12 A. Yeah, I personally have not been
13 involved in a study that exactly had that design.
14 Although, looking backing at the studies that we did
15 in Solano County, we did have a variable for
16 distance from the transmission tower, for example,
17 as well as distance from the right of way. And in
18 that particular study, those variables didn't really
19 do very much for us. They didn't turn up much, but
20 some other studies have.

21 Q. Okay. So most of these areas are rural
22 areas. In any rural areas, you might have some
23 three acre and five acre tracts so. And reading
24 your reports that you cited and reading your
25 surrebuttal testimony, it seems to me that most of

1 **your testimony says there's not much of an effect.**

2 **Would you say that?**

3 A. I'll say, you know, looking at the body
4 of research that --

5 **Q. The whole body of research that you've**
6 **cited?**

7 A. Pardon? Yeah, the body of research that
8 I've cited. You know, roughly speaking about a half
9 of the studies suggest that while there really isn't
10 a, you know, significant effect, the other half
11 suggests that yeah, that there are effects, but
12 these effects, you know, speaking specifically of
13 residential properties are in the vicinity of like
14 anywhere from, you know, a couple to 10 percent of
15 the value of the home.

16 **Q. A couple to 10 percent?**

17 A. Yeah.

18 **Q. And that one study said 6 to 17 percent**

19 --

20 A. Which study?

21 **Q. The one Mr. Jarrett just cited. I**
22 **forgot what page it was on. Well, I'll just skip**
23 **that.**

24 COMMISSIONER KENNEY: Anyway, okay, I
25 appreciate it. That's all I had. Thank you very

1 much.

2 THE WITNESS: Thank you.

3 QUESTIONS BY COMMISSIONER HALL:

4 Q. Good morning.

5 A. Good morning.

6 Q. At the local public hearings, we heard a
7 great deal of testimony from land owners very
8 concerned about the effect that this transmission
9 line might have on the value of their property. And
10 I was struck by a statement that's included in your
11 surrebuttal testimony at page 13, where, lines 15
12 through 18, where you say:

13 What counts in the end is not
14 speculation about how people might perceive various
15 issues that could be associated with transmission
16 lines or what they say they think about transmission
17 lines, but their actual behavior.

18 So what I assume you're saying there is
19 that there's a difference between the perception of
20 the effect of a transmission line and how it
21 actually effects the sale price of that property; is
22 that correct?

23 A. That's all quite true. And that's
24 really kind of the core point of my testimony.

25 Q. Well, I have a question for you. And

1 this may be outside the area of your expertise, and
2 please, if that's the case, simply say so. But how
3 do you account for that discrepancy? I mean, is
4 that something for a sociologist or a psychologist
5 to delve into, or can you with your background,
6 experience, education, give us some insight into
7 that discrepancy?

8 A. Yeah, I'll have to be careful to say not
9 too much because it may go beyond my area of
10 expertise. But somebody who has a lot of education
11 in environmental planning, and in particular, I've
12 been interested in applying social science ideas and
13 methods to the study of environmental issues.

14 One of the things that we observe again
15 and again, and it's just human nature that when any
16 kind of a big project is proposed that's going to
17 bring about change, people's imaginations just go
18 haywire in terms of, you know, imagining what the
19 impacts of the project would be. So that's why, in
20 my own, you know, kind of professional academic life
21 what I'm very interested in because, you know, I can
22 understand people's concerns. It's a basic, you
23 know, kind of human kind of emotion to want to
24 protect your turf. I mean, it's completely
25 understandable. So what my whole thrust of my, you

1 know, academic and professional life is, okay, what
2 actually happens when you build a project that so
3 much concern has been expressed about. After that
4 project goes in, what's it really like for people
5 living around it? What's their experience of it?
6 What's their perception of it? And then in terms of
7 their actual behavior, like, for example, their
8 purchase behavior. How does it actually effect
9 their behavior?

10 Because I think for policymakers who sit
11 in hearings and hear people who are very emotional,
12 you know, for reasons that are very easy to
13 understand, it's good for you to be able to have
14 this backlog of empirical research to inform you
15 that, okay, well, once this project goes in, in
16 reality, what are the effects actually likely to be?

17 **Q. So, in other words, I think what you**
18 **said is that short-term emotion would be the cause**
19 **of these perceptions that are scientifically**
20 **inaccurate?**

21 A. That would be a fair thing to say, yeah.

22 **Q. Have you done research or has there been**
23 **research done looking at the effect of a**
24 **transmission line on property values over time?**

25 **For example, would it make sense that a**

1 transmission line could affect the value of property
2 short term? Like if the line goes in in a
3 particular year, the next year, it could have more
4 effect on the property value than it would, say five
5 or ten years later?

6 A. Yeah, that's quite true. This study
7 that I mentioned before that we did on six
8 neighborhoods in northern California. One of the
9 transmission lines -- and this is actually the one
10 that I did the survey on that was published in
11 Journal of Environmental Psychology -- in that
12 neighborhood, there had been a 115kV line that had
13 been upgraded from a 115 to 230. So you went from
14 about 60 feet high to about 130 feet high because
15 you had a 230 at the top and then under that, you
16 had a 115, so it was a much, much, bigger structure.

17 And in that neighborhood, we discovered
18 that there were property value drops in the first
19 couple years after the sale of that property. But
20 after about five years, that property value effect
21 tapered off, you know, pretty substantially. And
22 our hypothesis was that locally, there had been, you
23 know, so much human cry about this transmission line
24 that it really kind of attracted attention to it.
25 And for that reason, there may have been some level

1 of stigma to homes that were located close by. So
2 that was our hypothesis when looking at those
3 findings. Interestingly enough, this neighborhood
4 we did our study in, had two subdivisions that were
5 pretty comparable. One had been developed before
6 this transmission line upgrade. The other one
7 afterwards. And when I was doing my field work, one
8 of the things I noticed is in the second
9 subdivisions, all the model homes were cited right
10 around one of the new transmission towers.

11 **Q. That particular study that you just**
12 **referenced, has there been academic criticism pro or**
13 **con?**

14 A. The property values study that I
15 mentioned has been pretty widely circulated, but it
16 was not published in a peer reviewed journal. And
17 I'm not aware of a criticism of it. And there has
18 been at least one other study, and I can't remember
19 which one at the moment that has also found a time
20 effect.

21 **Q. All of the discussion, during your,**
22 **well, in the testimony has been about transmission**
23 **lines. Is there a difference between transmission**
24 **lines and distribution lines?**

25 A. I would say, first of all, there's

1 really not much research literature on transmission
2 lines, I guess -- I'm sorry, on distribution lines,
3 and maybe for two reasons. One, they're pretty
4 ubiquitous. And two, increasingly they're being
5 placed underground. But I am not familiar with any
6 research literature on like the impacts of say
7 putting distribution lines underground.

8 COMMISSIONER HALL: I don't have any
9 more questions. Thank you.

10 THE WITNESS: Thank you.

11 JUDGE BUSHMANN: Questions based on
12 bench questions. Wind on the Wires?

13 MR. REED: No, sir.

14 JUDGE BUSHMANN: Commission staff?

15 MR. WILLIAMS: No questions.

16 JUDGE BUSHMANN: Rockies Express?

17 MS. DURLEY: No questions.

18 JUDGE BUSHMANN: Reicherts and Meyers?

19 MR. DRAG: No questions, your Honor.

20 JUDGE BUSHMANN: Show Me Concerned Land
21 Owners?

22 MR. JARRETT: No thank you, Judge.

23 JUDGE BUSHMANN: Landowners Alliance?

24 MR. AGATHEN: Yes, Your Honor. Just a
25 couple questions in follow up to questions by

1 Commissioner Hall.

2 QUESTIONS BY MR. AGATHEN:

3 Q. Did I hear you say that people just
4 imagine what the impact of the line might be at the
5 outset of the project?

6 A. I wouldn't put it exactly --

7 Q. Didn't you use the word they imagined?

8 A. That is how I may have put it, yeah.

9 Q. Is it true that many of the people at
10 the local public hearings had concrete examples of
11 how the line would affect their property and their
12 use of the property?

13 A. I wasn't at the hearings --

14 Q. So you don't know?

15 A. -- so I can't tell you what people might
16 have cited.

17 Q. Okay. If someone said, for example,
18 that they would no longer be able to build a home
19 where the line was coming through because their
20 perspective home was right around the line. Would
21 you saying they were just imagining that example?

22 A. In that case, if they, you know, truly
23 had plans to build under the line, yeah, that would
24 not be an imagined impact, and it would be something
25 to negotiate over in terms of a settlement.

1 **Q. And the same would be true of any other**
2 **concrete examples that people at the local public**
3 **hearings brought up, which you're not aware of, of**
4 **course. If they had concrete examples of how the**
5 **line would affect them, would you say that's not**
6 **just something they imagined?**

7 A. Well, again, I don't know the kinds of
8 things that people cited --

9 **Q. We'll, I'm saying --**

10 A. -- and what the nature was.

11 **Q. I'm saying, concrete examples of how the**
12 **line would affect them, would you say that was just**
13 **something imagined?**

14 A. Well, again, if there were cases of
15 people wanting to build or do other things under the
16 transmission lines that, you know, would not be
17 compatible with the transmission line, then that
18 would be quite real.

19 MR. AGATHEN: That's all I have, Judge.

20 JUDGE BUSHMANN: Redirect?

21 MR. STEELE: Yes, just briefly, Judge.

22 REDIRECT EXAMINATION BY MR. STEELE:

23 **Q. Mr. Priestley, Mr. Jarret and Mr. --**
24 **well, there were numerous questions regarding a**
25 **handful of the articles cited in your testimony. Do**

1 **you remember that?**

2 A. I do, yeah.

3 **Q. Were the conclusions contained in your**
4 **surrebuttal testimony based on any single article?**

5 A. No. So, you know, as you can see, what
6 I did is I sought out, reviewed, evaluated, the
7 whole body of literature that is out there on
8 property value impacts of transmission lines. And,
9 you know, kind of my final global overall
10 conclusions are based on review of all of these
11 reports, and they don't rely on just a specific
12 report.

13 **Q. Going to a question that Commissioner**
14 **Kenney asked regarding Exhibit No. 557. Do you**
15 **still have that in front of you?**

16 A. Yes.

17 **Q. And he had briefly referenced your**
18 **answer to that DR response, talking about a**
19 **potential effect of -6 percent to -17 percent?**

20 A. Yes.

21 **Q. What kinds of properties was that effect**
22 **found on?**

23 A. Okay. So these properties were in
24 regions of the province of Ontario where there was
25 already, you know, some level of rural estate

1 development. And the properties, you know, involved
2 the agricultural or then agricultural properties or
3 properties that would have the potential to be
4 converted to residential estates.

5 **Q. So real estate development then of the**
6 **agricultural property?**

7 A. Yes.

8 **Q. And, in your opinion, would the research**
9 **show a similar effect of -6 percent to -17 percent**
10 **on agricultural land not being developed for**
11 **residential real estate?**

12 A. It's kind of a mixed bag because just a
13 little while ago, we had a discussion of a review of
14 some of the studies of impacts on vacant rural land
15 that had development potential. And in those cases,
16 no impacts were found.

17 **Q. I want to briefly turn your attention to**
18 **Exhibit No. 558. Mr. Drag was asking you questions**
19 **regarding your opinion on the testimony of Mr. Boyd**
20 **Harris. Do you remember that?**

21 A. Yes.

22 **Q. I wanted to turn your attention to the**
23 **response to data request number 2.**

24 A. Okay.

25 **Q. Could you briefly read that data**

1 **request?**

2 A. Okay. Number 2. Please provide a list
3 and describe the appraisal ordinances where
4 Mr. Harris provided opinions on land parcels
5 impacted by power lines.

6 And the response, Mr. Harris's comments
7 are: Specifically, appraisals on takings have not
8 been my general field of practice. Valuation and
9 marketing of land has been my focus since 1991. For
10 a specific example, I don't really have that. There
11 have been so many appraisals the past year as I go
12 back that there have been so many appraisals over
13 the past year to have to go back and find one would
14 be a challenge. Part of my support is simply just
15 my experience in recalling how people have reacted
16 in looking at land with power lines, the
17 reservations about impact, health care concerns,
18 etc. Appraising land with power lines would be
19 similar/identical to appraising lands with other
20 impairments such as proximity to factories, nuisance
21 sights, etc. The other thing that is similar would
22 be properties cut in half, odd shapes, etc. by a
23 highway change.

24 **Q. Does this data response affect your**
25 **opinion to Mr. Harris's conclusion at all?**

1 A. Well, golly. Yeah, here's kind of a
2 central concern that he's basing this very much on
3 say the reactions of perspective buyers. So again,
4 he's, what he's responding to here and reflecting
5 are like reactions and opinions of potential buyers,
6 as opposed to like a cold hard look at well, what
7 were the prices that were actually paid for
8 properties in these situations, and how do those
9 prices compare to properties that weren't similarly
10 situated or effected.

11 **Q. And one final question. Mr. Drag asked**
12 **you about the appraisal report for The Northern Pass**
13 **project?**

14 A. Yes.

15 **Q. That you had not seen. And in**
16 **Mr. Harris's comments regarding the methodology of**
17 **that report, he states:**

18 The part that did not make sense was the
19 development of sales and values for the 2007 market
20 high point.

21 And this is on page six there. Would
22 taking valuations based on, initial valuations that
23 is based on the 2007 market high point, would that,
24 in your opinion, provide statistically reliable
25 data?

1 A. You know, I am not personally familiar
2 with market conditions in northern New Hampshire in
3 the 2000s. But, you know, as a matter of general
4 principle, yeah, in doing any kind of analysis of
5 this kind, you would need to be very, very aware of
6 market trends, and particularly, if there has been a
7 bit of a real estate bubble and then a crash, you'd
8 have to figure out some way to take this into
9 account in your analysis.

10 **Q. Thank you.**

11 MR. STEELE: No further questions.

12 JUDGE BUSHMANN: Mr. Priestley, your
13 testimony has now concluded. You may step down.
14 And you're excused.

15 THE WITNESS: Thank you.

16 JUDGE BUSHMANN: I believe the next
17 witness is for Infinity Wind Power. Let's try and
18 get Mr. Langley in before we break.

19 MS. PEMBERTON: Thank you. We
20 appreciate that. Infinity calls Mr. Langley.

21 (Witness sworn.)

22 MATTHEW LANGLEY testified as follows:

23 DIRECT EXAMINATION BY MS. PEMBERTON:

24 **Q. All right. Would you please state your**
25 **name for the record?**

1 A. Matt Langley.

2 Q. And where do you work?

3 A. Infinity Wind Power.

4 Q. And what's your position with Infinity?

5 A. I'm the Director of Business

6 Development.

7 Q. Are you the same Matt Langley who caused
8 to be filed in this matter, rebuttal testimony
9 consisting of ten pages, and designated as Exhibit
10 875, and also cross-surrebuttal testimony consisting
11 of six pages that was amended on November 7th?

12 A. I am.

13 Q. Okay. And that testimony is referenced
14 as Exhibit 876, just for your records.

15 A. Okay.

16 Q. Was this testimony created at your
17 direction or by you?

18 A. It was.

19 Q. Okay. And do you have any corrections
20 to make to that testimony?

21 A. I don't.

22 Q. Would your answers be the same today as
23 what's contained in your pre-filed testimony?

24 A. They would be.

25 MS. PEMBERTON: I would move to admit

1 the rebuttal and amended cross-rebuttal of
2 Mr. Langley's testimony, subject to the Commission's
3 ruling on Monday with regard to Exhibit ML-1.

4 JUDGE BUSHMANN: Any objections?

5 MR. AGATHEN: Yes, Your Honor. I
6 hesitate to do this, but I think I need to in order
7 to preserve the issue. But I object to the
8 testimony on the ground that Infinity refused to
9 provide answers to any Missouri Landowners Alliance
10 first set of data requests to Infinity Wind Power,
11 closer to the same date of request that the
12 Commission ruled on it in its order of
13 September 24th, 2014.

14 JUDGE BUSHMANN: For the reasons that
15 were set forth in that order, I'll overrule the
16 objection.

17 MR. AGATHEN: Thank you, Judge.

18 JUDGE BUSHMANN: Exhibit 875 is received
19 into the record. Exhibit 876 is received except for
20 Exhibit ML1, which was not admitted.

21 (INFINITY WIND EXHIBITS 857 AND 876
22 RECEIVED INTO EVIDENCE.)

23 MS. PEMBERTON: I'll tender Mr. Langley
24 for cross.

25 JUDGE BUSHMANN: First cross is by Grain

1 Belt.

2 MR. ZOBRIST: We have no questions,
3 Judge.

4 JUDGE BUSHMANN: Wind on the Wires?

5 MR. REED: No questions.

6 JUDGE BUSHMANN: Commission staff?
7 Rockies Express?

8 MS. DURLEY: No questions.

9 JUDGE BUSHMANN: Reicherts and Meyers?

10 MR. DRAG: No questions, your Honor.

11 JUDGE BUSHMANN: Show Me Concerned
12 Landowners?

13 MR. JARRETT: Yes, Judge, I just ask for
14 a point of clarification. In Mr. Langley's
15 surrebuttal testimony, did you say that schedule
16 ML-1 was not admitted?

17 JUDGE BUSHMANN: That was one of the
18 preliminary motions that I ruled on at the beginning
19 of the hearing, and there was a motion to strike
20 certain portions of that surrebuttal testimony and
21 the exhibit. And I denied the motion to strike with
22 regard to the testimony, but granted it with regard
23 to the exhibit.

24 MR. JARRETT: Okay. Thank you.

25 CROSS-EXAMINATION BY MR. JARRETT:

1 Q. Good morning, Mr. Langley.

2 A. Good morning.

3 Q. I wanted to ask you some questions
4 regarding your surrebuttal testimony, specifically
5 pages 4 and 5.

6 A. Okay.

7 Q. Your cross surrebuttal.

8 A. Correct.

9 Q. Is one of the concerns in your cross
10 surrebuttal the curtailments and congestion related
11 to wind located in the high wind in MISO?

12 A. Yeah. The nature of the testimony was
13 discussing why the wind coming out of the high wind
14 areas of MISO would be different or the product than
15 the electricity generated from the wind coming out
16 of western Kansas from the Grain Belt Express Line.
17 And one of the things we stated or discussed was
18 that the curtailment and congestion to get the power
19 from the upper states, the northern states of the
20 MISO footprint, down to this area, would make that
21 power more expensive and a different product.

22 Q. And have you performed any analysis to
23 determine the level of curtailments or congestion
24 that the Kansas wind from the Grain Belt project is
25 likely to face at its chosen location in Missouri?

1 A. No.

2 Q. With respect to curtailments of wind
3 farms, do you know whether or not FERC Order 1000
4 requires MISO to include public policy benefits in
5 its evaluation of potential transmission upgrades?

6 A. I'm aware of that, yes.

7 Q. And so that's true?

8 A. Yes, I believe so.

9 Q. In your opinion, would cost savings from
10 reduced curtailment of wind farms that are meeting
11 state and local energy mandates be a public policy
12 benefit?

13 A. One of many. I mean --

14 Q. But it would be one?

15 A. It could be.

16 Q. With respect to congestion-related
17 costs, do you know if FERC Order 1000 requires
18 transmission projects designed to reduce congestion
19 to be built if the benefit-cost ratio is greater
20 than 1.25?

21 A. It's been awhile since I read the order,
22 but I believe that that's the case.

23 Q. Before FERC Order 1000, do you know the
24 benefit-cost ratio being used by MISO as a threshold
25 for building a project designed to reduce

1 **congestion?**

2 A. I can't recall the exact number off the
3 top of my head. I think it was higher than that,
4 but I'm not sure.

5 **Q. Okay. And would you agree that FERC**
6 **Order 1000 is likely to have significant impact in**
7 **MISO to reduce curtailment of wind power and**
8 **congestion?**

9 A. Not necessarily. FERC Order 1000 is a
10 tool by FERC to attempt to alleviate a problem.
11 However, you know, wind development, just like all
12 energy development is predicated on the principles
13 of free market. So it doesn't ban somebody from
14 putting a wind farm into an area where that could
15 intentionally cause high congestion or curtailment.
16 So it's hard to tell. I mean, public policy has a
17 history of trying to accomplish one goal and ending
18 up accomplishing something very different.

19 **Q. But you would agree that one of the**
20 **purposes of FERC Order 1000 --**

21 A. It's a goal -- It's a goal, right.

22 **Q. -- to reduce congestion?**

23 A. But I don't agree that it will.

24 MR. JARRETT: Okay. That's all I have.

25 Thank you, Mr. Langley.

1 THE WITNESS: Thank you.

2 JUDGE BUSHMANN: Missouri Landowners
3 Alliance?

4 MR. AGATHEN: Thank you, Judge.

5 CROSS-EXAMINATION BY MR. AGATHEN:

6 Q. My name is Paul Agathen. I represent
7 the Missouri Land Owners Alliance.

8 Are you familiar with Mr. Berry's
9 testimony where he estimates that the cost to
10 transmit energy on the proposed line would be
11 somewhere between 1.5 and 2 cents per kilowatt hour?

12 A. I am familiar with that.

13 Q. Is it fair to say you have no offer from
14 Grain Belt to actually sell you capacity on the line
15 for that price that he has quoted?

16 A. We have had discussions with them on a
17 variety of pricing mechanisms and methodologies, but
18 until we go through the open access part of the
19 project, we cannot engage with a commercial contract
20 with them.

21 Q. So your answer is no?

22 A. We do not -- yeah, we do not have it at
23 this time, right.

24 Q. Is it fair to say that the actual charge
25 for capacity will be based on market conditions in

1 effect at some future time when Grain Belt
2 negotiates those charges with potential customers?

3 A. Yeah, that's fair to say.

4 Q. Is it fair to say that at this point,
5 the price which Grain Belt might charge per capacity
6 on the line is just speculative?

7 A. I would assume that it's better, it's
8 more concrete than speculative. I know they've done
9 a significant amount of work to understand the
10 capital costs associated with the line. Typically,
11 these charges are somehow related to capital costs.

12 I know through discussions with us, and
13 I assume they've had similar discussions with other
14 developers, you know, for instance, Trade Wind,
15 who's also part of this case, on what the price
16 should be or what makes sense. You know, again, we
17 cannot engage with them on a contractual basis, but
18 they have done a very good job of reaching out to
19 every wind developer in western Kansas and beyond.

20 Q. So somewhere in there did you say that
21 it was or was not speculative?

22 A. I suppose it's -- I think speculative
23 implies -- they've done more research than what I
24 would guess the word speculative means.

25 MR. AGATHEN: May I approach?

1 JUDGE BUSHMANN: You may.

2 Q. I'm going to hand you an answer that you
3 provided to us in a data request.

4 A. Okay.

5 Q. Specifically, your answer to 2.C. And
6 ask if you would read into the record the
7 highlighted section there.

8 A. Okay. Infinity stated that the cost to
9 capacity on the proposed Grain Belt Express Line
10 will be subject to market conditions in effect at
11 the time the project is subscribed, which is
12 speculative. Okay.

13 MR. AGATHEN: Could I ask the court
14 reporter if she got what he read? Thank you.

15 Q. On a different subject, could you turn
16 please to page 7, line 20 of your testimony?

17 A. Of the direct or of the surrebuttal?

18 Q. Your initial testimony, rebuttal, I
19 guess?

20 A. Seven. Uh-huh.

21 Q. That refers to some projects that you
22 have in the region as you define it there, right?

23 A. I'm sorry. What line?

24 Q. Page 7, line 20, I believe.

25 A. 20. Infinity -- yep.

1 **Q. You're referring there to completed**
2 **projects or those under construction, correct?**

3 A. With respect to the ones where we have
4 been able to access the impacts, yes.

5 **Q. With respect to the projects that you**
6 **are talking about there at line 20?**

7 A. Right.

8 **Q. So none of those would be connected to**
9 **the Grain Belt Line if it were built, right?**

10 A. That's right. None of the projects
11 connected to the Grain Belt Line are currently under
12 construction.

13 **Q. On a different subject. Are you aware**
14 **of the fact that Grain Belt told the FERC that,**
15 **"There are potentially competing transmission**
16 **projects being considered in the area that provide**
17 **an alternative to the Grain Belt project"?**

18 A. I'm not aware of that specific
19 statement, no.

20 **Q. Is it fair to say that to the best of**
21 **your knowledge, there are in fact no viable**
22 **transmission projects being proposed that offer the**
23 **same pathway to MISO and PJM as the Grain Belt**
24 **project does?**

25 A. I'm trying to -- I'm aware of other

1 efforts to build high-voltage AC in the area, so I
2 suppose that it's a different product, so I think
3 Grain Belt is unique insofar as it's HVDC where it's
4 directly interconnecting in Missouri.

5 MR. AGATHEN: May I approach, your
6 Honor?

7 **Q. I'm going to hand you a copy --**

8 A. Right.

9 **Q. -- of the same data request that I gave**
10 **to you earlier and ask you to read in the bracketed**
11 **section of your response there.**

12 A. To the knowledge of Infinity, there are
13 no viable transmission projects being proposed that
14 offer the same pathway to MISO and PJM as does Grain
15 Belt Express. Right.

16 MR. AGATHEN: Thank you. That's all I
17 have, your Honor.

18 JUDGE BUSHMANN: Questions by
19 commissioners. Mr. Chairman?

20 CHAIRMAN KENNEY: A few Mr. Langley.
21 Thanks.

22 QUESTIONS BY CHAIRMAN KENNEY:

23 **Q. Can you hear me okay?**

24 A. I can. Thank you.

25 **Q. Infinity Wind, in your testimony, you**

1 indicate that Infinity Wind is currently developing
2 over 2,000 megawatts of wind energy projects --

3 A. That's correct.

4 Q. -- that could benefit Grain Belt. Where
5 are those located, geographically?

6 A. They're all located in western Kansas.

7 Q. How many turbines comprise that project
8 or those projects?

9 A. Well, it's a series of projects, so I
10 want to be clear on that. And they may not all come
11 on at the same time. It's an estimate based on
12 where we see turbine technology going. I just want
13 to be clear that turbine technology has been
14 changing at extraordinarily fast rates over the last
15 five or six years. So the estimates that we're
16 doing now are based on a 2.5 megawatt turbine, per
17 turbine nameplate capacity. But, you know, by 2018,
18 if the standard is 4 to 4.5 megawatts, those
19 numbers, you know, the size may change.

20 Q. And that's conceivable? I mean, they're
21 getting bigger, technology's advancing.

22 A. That's right. That's right. A couple
23 of the leading companies have already announced
24 capacities in that size range for turbines by 2017.

25 Q. So let me just -- I want to have a

1 better understanding about the 2,000 megawatts that
2 you discuss in your testimony.

3 What's driving that development? Is it
4 the RPS? Is it the rich resource in western Kansas?
5 What's driving Infinity? And what's driving
6 Infinity's business model to be looking to develop
7 2,000 megawatts?

8 A. It's the rich resource. We have pursued
9 a strategy at Infinity of locating wind where it can
10 generate electricity as cheaply as possible. And in
11 our estimation, the combination of the land use, the
12 wind resource, the environmental issues, you know,
13 transportation, proximity to manufacturing. Western
14 Kansas provides some of the cheapest wind in the
15 country.

16 We have taken a very competitive
17 position and have been successful in Western Kansas.
18 We have, you know, so far there's a 267 megawatts of
19 Infinity developed projects that are in operation.
20 And we will continue to develop there because we
21 believe that ultimately wind will continue to be
22 competitive as long as we place it in areas where it
23 can generate power as cheaply as possible.

24 Q. Is Infinity a privately owned company?

25 A. We are.

1 Q. What's your corporate structure?

2 A. We are an LLC. A privately held LLC.

3 Q. Privately held by private investors,
4 equity fund? How are you guys financed?

5 A. We are, Infinity Wind Power LLC, is held
6 by its founders and a couple investors.

7 Q. And who are the investors? Are they
8 institutional investors?

9 A. No, they're individuals. They're
10 angels, individuals.

11 Q. So you said you got 267 megawatts
12 currently developed in western Kanas?

13 A. Mmm-hmm. That's correct.

14 Q. Yes? You have to answer out loud for
15 the court reporter sorry.

16 A. Yes.

17 Q. How many other projects do you have
18 total? What's the total nameplate capacity of all
19 the projects that Infinity currently owns and
20 operates?

21 A. We don't currently own the projects.
22 When we develop them and we bring them to a state of
23 construction readiness, and then we sell those
24 projects to a variety of investors. We retain a
25 long-term economic interest in every project that we

1 have developed, but we are not the primary owner.

2 **Q. So let me ask a different question then.**
3 **How many megawatts has Infinity developed and then**
4 **subsequently sold?**

5 A. It's probably close to 700, but I need a
6 calculator.

7 **Q. Okay. And that's -- I don't need you to**
8 **be precise. And where is that 700 megawatts**
9 **located, geographically?**

10 A. So we have two projects totaling 268
11 megawatts in western Kansas, we have a 74 megawatt
12 project in Nebraska, 300 megawatt project in New
13 Mexico. I'm missing one -- 300 megawatt project in
14 Oklahoma.

15 **Q. Okay. So you have experience developing**
16 **projects in wind-rich states. Some pretty**
17 **substantial projects it sounds like?**

18 A. That's correct.

19 **Q. And those are all currently operating**
20 **and generating electricity?**

21 A. The one referenced in New Mexico is
22 under construction. It's currently owned by a
23 company called EDF, which is one of the largest wind
24 generators in the world.

25 **Q. You said EDF, right?**

1 A. EDF, that's correct.

2 Q. Okay. All right. So you guys know what
3 you're doing?

4 A. Yes, sir, we like to think so.

5 Q. Okay. So let me go back to the 2,000
6 megawatts that you're proposing. And I understand
7 why you've selected the location. My question now
8 is, why do you want to ship it to PJM, why not stop
9 at MISO, or conversely, why not ship it out points
10 west?

11 A. That's a great question. Regarding
12 shipping it to, 500 to MISO and then 1,500 to PJM.
13 A fair amount of that is just a review of the
14 competitive landscape as well as the transmission
15 situation.

16 The reality is that, as you know, energy
17 is priced based on supply and demand. In western
18 Kansas, there's a tremendous supply of this energy;
19 however, there's not a tremendous amount of demand.
20 There's not large population centers, you know,
21 there's no equivalent of a St. Louis or Chicago
22 certainly, in western Kansas. So part of the reason
23 to ship it west, or east excuse me, is because the
24 price that we can obtain for the power, we feel will
25 be higher in those markets than they are where the

1 projects are currently located.

2 Regarding shipping it west, frankly,
3 part of it, there's two reasons why. The state
4 immediately to the west of Kansas, of course, is
5 Colorado. And the eastern part of Colorado's wind
6 resource is almost as good, not quite as good, but
7 almost as good as the Kansas resource. So we'd be
8 competing with a product -- you know, it'd be harder
9 to compete based on the strength of that resource.
10 And, of course, shipping it further west, there's
11 not a whole lot of transmission lines, certainly of
12 the nature of Grain Belt that are going over the
13 Rocky Mountains.

14 **Q. So to restate what you've just said, for**
15 **my own edification, science and technology dictates**
16 **where you locate the project, and then economics**
17 **dictate where you ship the electrons produced by**
18 **the project?**

19 A. That's a great way of summarizing it.

20 **Q. Okay. All right. So you got science**
21 **and technology and economics that are driving your**
22 **business decisions?**

23 A. That's right.

24 **Q. 2,000 megawatts of capacity. Given what**
25 **you think the capacity factor would be, how many**

1 megawatt hours on an annual basis would be generated
2 by that capacity? And also, approximately, how many
3 homes would be served by those projects?

4 A. I can walk you through the calculation.
5 I haven't done the math myself. But the easiest way
6 to do the math is to take the estimated capacity
7 factor, which I think, you know, we've discussed at
8 about 55 percent, multiply it by the total number of
9 megawatts, so in this case 2,000, and then multiply
10 that by 8,760, which is the number of hours in the
11 year. That will give you the megawatt hours that
12 would be generated in a year by the project itself.

13 Now, regarding how many homes that would
14 serve, this is a popular statistic to use in the
15 industry. However, I take a fair amount of
16 exception to it, insofar as, homes consume power at
17 very different quantities based on how many people
18 are living in the home, how modern the equipment is,
19 the weather conditions in the home, you know, the
20 weather conditions based on where the neighborhood
21 is located. So, you know, I don't have what the
22 current industry is using as an estimate for that --

23 Q. Okay.

24 A. -- you know, because of the variation.

25 Q. Okay. All right. I got about 9,636,000

1 megawatt hours on an annual basis. Does that sound
2 about right? I did 2,000 times .55 times 8,760 and
3 that got me about 9,636,000.

4 A. Yeah, I think that's probably about
5 right. I'd have to.

6 Q. Okay. So it's a substantial amount?

7 A. It is.

8 Q. Okay. And the capacity factor that
9 you've calculated, and I think some of this you
10 discuss in your cross surrebuttal. How do you
11 determine that the capacity factor for this wind
12 would be 55 percent?

13 A. It's a combination of -- so what we've
14 done is we use meteorological measuring equipment,
15 often called met towers, in addition to other
16 technology to measure the wind. We do not make any
17 calculations until we've had at least a year or two
18 years of data that are verifiable on site so that we
19 can make sure to incorporate seasonal variation of
20 the wind. We then, you know, using a meteorologist,
21 primarily from third-party consultants, they come up
22 with a long-term estimate for what the wind is. So
23 they take the two years of actual data and
24 extrapolate it to a 20-year meteorological record
25 through correlating with long-term weather stations

1 typically found at municipal airports. That gets
2 you an estimate of what the wind speed is going to
3 be, and then they apply that wind behavior on an
4 hour-by-hour basis to whatever turbine we may be
5 putting onto the wind farm. So it's a combination
6 of the wind speed as studied by the meteorologists,
7 plus whatever technology we choose to put on that
8 particular site.

9 **Q. And it's the wind's speed at that**
10 **location, it's not just some generic wind speed**
11 **somewhere --**

12 A. No, it's --

13 **Q. -- you have towers within western**
14 **Kansas?**

15 A. That's right. We have over 20 towers in
16 western Kansas it's extremely accurate. We use
17 something called mesoscale modeling. We can
18 estimate the wind speed down to a square meter on an
19 hourly basis.

20 **Q. And then you apply existing technology.**
21 **So your earlier testimony is that you might be using**
22 **larger capacity turbines by 2018. Would those**
23 **larger capacity turbines yield a higher capacity**
24 **factor?**

25 A. They may. Larger -- so there's two

1 things that we think about when we think about
2 turbines. And if you imagine a turbine in the air
3 might be helpful. One is the capacity, so that is
4 how many megawatt hours -- or how many megawatts can
5 the generator support? The other thing is, is
6 typically, it's actually the length of the blade.
7 The longer the blade, the more are you can capture,
8 and therefore, the more often it will frankly spin
9 around. The capacity factor is the relationship
10 between those two.

11 So there are turbines that have -- if
12 the turbine has a longer blade and a larger
13 generator, we would assume, and we've seen this, you
14 know, through the growth of the industry that the
15 capacity factor will go up, and, therefore, the
16 output would go up for two reasons. One, because
17 the generator's bigger, so it's capable of making
18 more megawatt hours. And two, because the rotor
19 size is longer, so it's capable of taking more
20 efficient advantage of the wind passing through the
21 envelope.

22 **Q. So by 2018, or at some point in the**
23 **future, if you're conceivably using larger capacity**
24 **turbines with larger blades, that 55 percent**
25 **capacity factor may increase?**

1 A. Yeah. Yes, we think that's a pretty
2 safe bet.

3 **Q. And that's pretty likely to increase?**

4 A. Yes, that's correct.

5 **Q. Okay. So -- and let me, the point of**
6 **your cross surrebuttal testimony was to take**
7 **exception with Dr. Proctor's calculation of capacity**
8 **factors. I think he used lower capacity factors**
9 **than you did --**

10 A. That's right.

11 **Q. -- to determine whether there would be a**
12 **congestion in MISO; is that right?**

13 A. And the capacity factors also that's a
14 part of it. I also think that the capacity factors,
15 if I'm not mistaken, were used to calculate the
16 levelized cost of energy generated by the wind farms
17 as compared to other wind farms.

18 **Q. Did Dr. Proctor's numbers, did he derive**
19 **those from measuring wind speeds at the location of**
20 **your site?**

21 A. No.

22 **Q. Or were they generically derived**
23 **numbers?**

24 A. I believe the numbers he used came from
25 a 2012 report, A Wind Turbine WTMR, if I'm not

1 mistaken. It's a report that was published by The
2 National Renewable Energy Labs that was a survey of
3 existing farms that were in operation at the time
4 that the report was compiled, which I believe were
5 over the years 2012 and 13. So he did not use our
6 data, of course, he wouldn't have access to that.

7 **Q. Sure.**

8 A. He, you know, looked at a survey that
9 was done by NREL or The National Renewable Energy
10 Labs.

11 **Q. There's nothing wrong with it, it's just**
12 **not as accurate in terms of the precise location of**
13 **your project?**

14 A. That's right. It's a national, or well,
15 I believe, he was able to get it to a regional.
16 But, yeah, that's right, it's a regional look, not a
17 specific look.

18 **Q. All right. I think I got that. I want**
19 **to talk a little bit really briefly now about**
20 **project finance and your ability to secure**
21 **financing. How does that -- how is that challenged**
22 **or inhibited by the lack of transmission to move**
23 **electrons?**

24 A. That's a great question because we do --
25 I deal with that every day. I'd like to break it

1 into two pieces. In the event that we're not moving
2 the power and we are offering to sell the power in
3 western Kansas. Particularly, if it's for an off
4 taker that's not located in western Kansas. So this
5 would be, say, the Westar Utilities or KCP&L, for
6 instance.

7 **Q. Right.**

8 A. One of the concerns is because the
9 existing infrastructure is not up to the task let's
10 say of delivering that power even across the state
11 of Kansas, you have significant curtailment risk,
12 where there's too much energy moving all in the same
13 direction from western Kansas to KCP&L where, you
14 know, where the load is. And the grid operator in
15 this case, the SPP, has to order certain wind
16 turbines or wind farms to dial back their
17 production.

18 **Q. Right.**

19 A. So this is a problem for two reasons.
20 Typically, a utility isn't going to want to pay for
21 power that it's not receiving. It is very difficult
22 to predict, particularly, for emergency situations
23 what that curtailment is going to be. So what
24 happens is when the bank looks at my numbers and
25 says, well, you know, I'm going to loan you money

1 based on how much money I think you're going to make
2 over the next 20 years, similar to any business.
3 When they look at my numbers, they say, well, we
4 don't know what that curtailment is going to be for
5 the next 20 years, it's impossible for anybody to
6 credibly put a number on there, so we're just going
7 to take a really high number and jam it in there.
8 You know, this is what bankers -- this is how they
9 make their money, in my opinion. So it makes it
10 very expensive for us because we are constantly
11 being held to a worst case scenario for 20 years.
12 That's part of it.

13 The other part of it is, if we are to
14 procure transmission services rights, which allow us
15 firm transmission rights from our wind farm to
16 whoever the consumer of the power is. We have to
17 pay a fee for those rights. The problem in that
18 case is, those contracts typically only go between
19 three and five years with the SPP or MISO. In the
20 event -- and then they reset. And basically, it's
21 up to the RT, the regional transmission operators,
22 to reset those rates. However, I have a 20-year
23 contract with my utility, and my lending, and all
24 the money that I raised from Wall Street is based on
25 that 20-year contract. So what happens is, again,

1 they say, well, we know what it's going to cost you
2 for the first five years, but we have no idea what
3 it's going to cost you for the next 15, so again,
4 we're going to essentially ding you on that. Assume
5 that the rate is significantly higher than it may be
6 or assume a growth rate, because we can't
7 empirically know what it is. And then, you know,
8 use that against you basically through the financing
9 process.

10 So what it does is it creates a riskier
11 project and riskier projects are more expensive.
12 Maybe that's a more elegant way of saying it.

13 **Q. Okay. That's helpful.**

14 **So you ultimately testify that your**
15 **project won't get developed unless you have this**
16 **long-haul transmission line available to you. Is**
17 **that the essence of your testimony?**

18 A. I don't know if we said it won't get
19 developed. If the transmission line is not
20 available. It will be significantly harder to
21 develop and we will have to redesign the project.
22 In the way that we have designed it, it will not be
23 developed. But we may break it into smaller pieces,
24 phase it in over a significantly longer period of
25 time or otherwise modify it.

1 You know, the saying in our business is,
2 if you're a wind developer, you've got a Plan A, a
3 Plan B, a Plan C, and a Plan D. And certainly, we
4 would be in the Plan D through F range if this were
5 not developed.

6 **Q. But based upon what we were talking**
7 **about before with the science, with the technology,**
8 **with the economics, this is the best economically**
9 **feasible project as it's designed with the Grain**
10 **Belt Express Line?**

11 A. We believe that to be the case, yes.

12 CHAIRMAN KENNEY: Thanks for your time.
13 And thanks for indulging my questions. I'm
14 finished.

15 THE WITNESS: Appreciate it. Thank you.

16 COMMISSIONER STOLL: I have no
17 questions. Thank you for your testimony.

18 QUESTIONS BY COMMISSIONER KENNEY:

19 **Q. I appreciate your answers to those**
20 **questions. I learned a lot. Thank you. So when I**
21 **drive down I-70 heading through Kansas to Colorado,**
22 **and I get to that wind farm and half of them are**
23 **shut down, seems like all the time.**

24 A. A lot of that is --

25 **Q. Is that control?**

1 A. No. A lot of that -- well, it's hard to
2 know without knowing which wind farm. There's about
3 14 out there.

4 **Q. I-70, I forgot where I hit them.**

5 A. Yeah, you basically, Dodge City and all
6 the way through.

7 **Q. On I-70?**

8 A. That's right. There's a lot of them out
9 there. It's hard to know. There could be a variety
10 of reasons why they're shut down. But in western
11 Kansas in particular, one of the main reasons they
12 can be shut down is because of this curtailment
13 issue we were discussing earlier.

14 **Q. Okay.**

15 A. So the SPP says, you're not allowed to
16 operate if there's not enough transmission capacity
17 so they either shut them down or slow them down.

18 **Q. Because some of those turn a lot faster**
19 **than others even in the same wind farm, I mean,**
20 **right next to each other.**

21 A. Right, the same model. That's right.
22 Because you can feather the blade. So basically it
23 doesn't capture as much wind and that's how they
24 slow them down.

25 **Q. Okay. Good. I don't know if you can**

1 answer this question, but I'm curious. For the 500
2 megawatts going to MISO, so in Missouri, I would
3 assume that a lot of our Ameren customers will
4 receive that power. Which is less expensive for the
5 Ameren customer, to purchase wind power from the
6 Grain Belt Express Clean Line or to purchase RECs
7 and use their existing resources?

8 A. In the current market, it would be --
9 it's hard to know because we haven't, we don't have
10 a binding commercial contract with Grain Belt yet to
11 know what that costs. What I can tell you is that
12 we are generating wind and we have signed contracts
13 that are part of the public record for wind in the
14 region that has a very similar wind profile to the
15 Kansas region for at or less than two cents per
16 kilowatt hour. So this is extremely cheap power.
17 So the question would be -- and that bundled product
18 would include both the RECs and the power itself.
19 So the question is, is what would it cost to deliver
20 the power? And you saw in the testimony that we're
21 thinking it's between 1.5 and 2 cents for the
22 delivery, which would apply about a four-cent
23 delivered price. What Ameren can buy power for, you
24 know, at the moment, it changes every hour as you
25 know. There's a lot of discussion now about what's

1 going to happen with 111-D and the existing
2 facilities about what they can or cannot close down.
3 From a new build perspective, if it's a question of
4 do we build this in western Kansas plus the delivery
5 or do we build a brand new nuclear plant or coal
6 plant.

7 **Q. I understand. The new build that's**
8 **already been --**

9 A. So the existing, it's a little bit hard
10 to tell just because the market is moving so
11 quickly.

12 **Q. Eliminate every subsidy for wind power**
13 **and then where are we at?**

14 A. That's a great question. We look at
15 this all the time. The problem is that it's really
16 hard to know. And let me just give you, if you'll
17 indulge me for a moment, an example. The subsidy
18 itself is a tax credit. There are very few entities
19 in the United States that can take advantage of that
20 tax credit. Typically, they tend to be banks. And
21 if you look at the deals that are getting done right
22 now, there's only about five very large financial
23 institutions that are very aggressive in terms of
24 investing the tax credit. And as a result of that,
25 what they do is they charge, effectively an interest

1 rate, if you will, to get into these projects of
2 between 7 to 9 percent. So while we have access to
3 a subsidy, it's an extremely expensive subsidy from
4 our perspective. By contrast, if we were to build a
5 gas plant -- and there's one that was just financed
6 yesterday -- those people can finance those gas
7 plants on a 20-year long-term debt structure of
8 between 3.5 and 4 percent. So just cutting the
9 subsidy, adding the number and saying this is what
10 your number's going to be, is not really the right
11 answer, because so much of how the overall cost of
12 these projects is tied up in how they're financed.

13 And I believe, and I think, you know,
14 it's pretty clear is that if the subsidies were to
15 go away, if the production tax credit were to go
16 away, and nothing else replaced it, the financing
17 structures that we would use would be totally
18 different. So it's a -- I mean, I know that's not
19 exactly answering your question --

20 **Q. Well, and that's part of your financial**
21 **structure, you sell the tax credits, correct?**

22 A. That's right. But we're selling those
23 tax credits, it's an expensive sale.

24 **Q. It's a discounted rate?**

25 A. Yeah, it's a discounted rate. That's

1 right. Very discounted. More than what the
2 equivalent amount of debt would be to finance the
3 project. Because when we sell those tax credits, we
4 sell the rights to those tax credits upfront, so
5 that the bank gives us sufficient money that we can
6 build a project. So you can think about it like
7 loaning money.

8 **Q. What type of discount rate?**

9 A. I'm trying to think of what's public.
10 Right now --

11 **Q. And I'm not asking you to disclose --**

12 A. -- 7.5 to 9 percent.

13 **Q. Okay. Discount?**

14 A. Right. So almost three times, two to
15 three times.

16 **Q. Isn't that pretty -- I mean, I think I'm**
17 **looking at just tax credits for housing scenarios**
18 **too in the state of Missouri, and I thought they**
19 **sold for about 90 percent to 93 percent?**

20 A. Yeah, it's a slightly --

21 **Q. Different structure.**

22 A. Right. But the tax credits because
23 there's so few tax investors. But the point is that
24 we can raise more than that. I mean, think about
25 what a 30-year mortgage is at 4 percent. You know,

1 there was a, you know, the gas plant that was just
2 financed that I was reading about this morning was
3 financed a \$900 million gas plant at 325 basis
4 points over the LIBOR rate. And the LIBOR rate
5 today was I think .5. So it's about half.

6 **Q. I don't think you answered my question**
7 **on the RECs, but I don't know if you can?**

8 A. I don't think that I can. It's hard to
9 know. And, you know, I haven't looked at where
10 Ameren's costs are recently, since the latest IRP
11 that came out.

12 COMMISSIONER KENNEY: Thank you very
13 much for your testimony.

14 THE WITNESS: Thank you for your time.

15 QUESTIONS BY COMMISSIONER HALL:

16 **Q. Good afternoon.**

17 A. Good afternoon.

18 **Q. Turning to page 4 of your direct**
19 **testimony. I think what you're saying is that there**
20 **is no alternative, no other alternative to exporting**
21 **Kansas wind energy other than the project being**
22 **proposed by Grain Belt Express. And what I want to**
23 **understand is, are you talking about the technical**
24 **characteristics of the plan or are you talking about**
25 **the fact that it's a merchant transmission developer**

1 **that is proposing the plan or both?**

2 A. Well, let me try to take that apart a
3 bit. I think there are technical ways to do this
4 through the use of transmission service credits and
5 other things. We don't believe that any of those
6 are economically feasible. We think the costs and
7 the risk associated with those are so high that the
8 resulting power to Ameren, as a buyer, would be
9 uncompetitive. So what makes this feasible, I
10 think, to a large extent is that it is a merchant
11 operator. It's new transmission capacity that
12 currently doesn't exist. We can sign long-term
13 agreements to eliminate a lot of this risk.

14 **Q. Okay. Well, let me back up then. So**
15 **it's your belief that it is critical that there be a**
16 **transmission -- excuse me, that there be a merchant**
17 **transmission developer, in order to move the wind**
18 **from Kansas into MISO and to PJM?**

19 A. You mean as opposed to a public utility
20 doing it?

21 **Q. Yes.**

22 A. I guess our view of it is is we don't
23 see a public utility -- in my view, a public, it
24 would be hard for a public utility to do the same
25 thing, because then you have to get into issues, of

1 course, of rate basing, is it in the interest of the
2 rate payers? What is valuable about the merchant
3 transmission that Grain Belt is proposing is that
4 the cost of moving that power are incumbent on us to
5 pay. Rather than say, just building a large AC line
6 in the middle of SPP where those costs are shared
7 across all rate payers.

8 I think if you tried to rate base a
9 Grain Belt type line into an RTO, you'd have a
10 revolt, frankly. Because there would be rate payers
11 in Nebraska, for instance, who have to pay part of
12 the socialized cost of the transmission. They'd
13 say, why am I paying for a transmission line to go
14 from Kansas to MISO and I'm not getting the benefit
15 of this power?

16 **Q. But isn't the argument that there is a**
17 **collective benefit for all rate payers in a**
18 **footprint in terms of reliability?**

19 A. Because of the way, the DC line is sort
20 of -- the DC -- my understanding, and I'm not a
21 technical expert on this. But the way that the DC
22 line is going to be working is there will be a
23 flashing system of western Kansas and, of course, it
24 will drop off in MISO. So I don't think that the DC
25 line itself will be contributing to the stability in

1 SPP. I think it will in MISO, but my understanding
2 is it won't be --

3 Q. Actually, let's go back to my initial
4 line of questioning. And that's my fault for taking
5 you astray.

6 So, in other words, it's your view that
7 the only way that we can get, the only way that the
8 Kansas wind can be taken into MISO and into PJM is
9 through a merchant transmission belt?

10 A. Currently, yeah. That's correct, yes.

11 Q. Okay. Are you familiar, and you
12 probably are much more so than I am, but familiar
13 with the five high-voltage transmission projects
14 approved by SPP in 2010 designed as priority
15 projects?

16 A. Yes, the V plan.

17 Q. The V plan. Okay. That's what it's
18 called. Okay. And then the MISO MVP projects?

19 A. Yes. I'm more familiar the V plan than
20 the MISO plan.

21 Q. Okay.

22 A. But I am familiar with both.

23 Q. One witness characterized all of those
24 projects as needed to facilitate the development of
25 wind energy. Is that a fair characterization?

1 A. I think it's one of many angles for
2 those projects. But they're trying to accomplish a
3 lot of things, particularly, both with MVP and V
4 plan, so I think it's one of several goals.

5 **Q. Okay. So why is it that we've got some**
6 **projects approved by these two RTOs, and I'll assume**
7 **they'll buy public utilities --**

8 A. Right.

9 **Q. -- to move wind energy, yet we can't**
10 **count on a public utility to put up a transmission**
11 **line for the particular wind that you're talking**
12 **about in western Kansas?**

13 A. I'm trying to be -- well, one of the
14 challenges that we face is the seams issue, where
15 these regional transmission operators touch each
16 other. They are run by different quasi governing
17 boards, they have different market structures, they
18 work under different rules, and moving power across
19 that seam is very difficult. There is a working
20 group where --

21 **Q. Let me stop you for a second there.**

22 A. Right.

23 **Q. Because I think the projects that SPP**
24 **and MISO have listed as their V projects and their**
25 **MVP projects that is for the benefit of rate payers**

1 **within that --**

2 A. Within their border, that's right.

3 **Q. And so the problem here is that we've**
4 **got a seam issue?**

5 A. Yeah.

6 **Q. And that's the distinction?**

7 A. Yeah, that is a critical piece of it.

8 **Q. Okay. Are there other reasons or is**
9 **that the main reason?**

10 A. Well, I think the other reason, again,
11 is with an AC line, you know, you can think of AC
12 transmission as sort of drinking out of a lake,
13 there's a power producer dumps water in a lake, then
14 somebody else sticks a straw in and sucks water out.
15 But you don't -- it's not -- you know, it's all
16 collective to the same bucket of water. In this
17 case, we're sort of taking the bucket, walking it to
18 a different lake, and dumping it in there. So I
19 think, again, it's hard to see why SPP would be
20 motivated, or the rate payers of SPP would be
21 motivated to build a transmission line where they're
22 not receiving any benefit of the power because it's
23 going all the way to MISO and PJM.

24 **Q. That makes sense. Let me switch gears**
25 **for a second.**

1 **What is your -- or what is Infinity's**
2 **schedule to actually start construction of these**
3 **wind farms? At what stage would that construction**
4 **occur?**

5 A. We would like to see them come on at the
6 same time that Grain Belt is energized, so we're
7 trying to line those schedules up. In our plans,
8 our corporate plans, it's 2017 to 2018. So that's
9 when we're planning on bringing those on line.

10 **Q. What does energized mean?**

11 A. When the line is capable of delivering
12 commercial quantities of power from our facilities
13 in western Kansas to Ameren and points east.

14 **Q. So what kind of regulatory -- so you'll**
15 **be taking your clues then from Clean Line as to when**
16 **to start construction?**

17 A. That's right. We're in conversation
18 with them and we're trying to keep everything on the
19 same schedule.

20 **Q. How long does it take to complete the**
21 **construction?**

22 A. Again, what we're really talking about
23 is probably four to five individual farms that total
24 up to about 2500 megawatts so, you know, to build an
25 individual farm of 4 or 500 megawatts is probably,

1 with current technology and things the way they are
2 now about 18 to 24 months, probably.

3 COMMISSIONER HALL: Okay. All right.

4 Thank you.

5 QUESTIONS BY COMMISSIONER RUPP:

6 **Q. Thank you, sir. How you are?**

7 A. Good. How are you?

8 **Q. Well, I have a lot of notes written**
9 **down, so I might be all over the page.**

10 **When Commissioner Kenney asked you about**
11 **your founders and your investors, I think I got**
12 **glossed over. Who are they?**

13 A. Not all this is public, so we have to be
14 kind of careful. The way that we're structured is,
15 there's a development company, and it's primarily
16 the founders of the company, which are the CEO, the
17 COO, some of the executives, myself included, and
18 then we have a joint venture with a private equity
19 fund. And the joint venture is where all the
20 projects are developed and the private equity fund
21 some of the capital necessary. So we're funded
22 through our own activities plus the investments.

23 **Q. Does the private equity fund have**
24 **ownership of the company or are they just --**

25 A. They have ownership in the joint

1 venture, but they don't have ownership in us. So if
2 they were to go away, we wouldn't necessarily go
3 anywhere. It's a nice structure as an employee.

4 **Q. Are there any sitting or former U.S.**
5 **senators, congressmen, or their families or**
6 **immediate families, involved in your organization or**
7 **in your investors?**

8 A. In our organization, I can equivocally
9 tell you, or unequivocally that no, there are nobody
10 in our organization. With respect to the private
11 equity fund, it's a large private equity fund. I
12 have no idea who their LPs are, their limited
13 partners or their investors in that fund.

14 **Q. Okay.**

15 A. I don't have any interaction. I've
16 never met anyone or --

17 **Q. Very good.**

18 A. -- engaged with anyone.

19 **Q. So you said on your projects, you end up**
20 **selling the projects, but you keep a percentage for**
21 **long term?**

22 A. In economic interest.

23 **Q. Okay. And what percentage of that**
24 **average on each project, do you?**

25 A. It's not an equity position, it's a

1 retained cash flow position, and it varies quite a
2 bit from project to project. It's never more than
3 15 percent of the cash flow that comes off the.

4 Q. Okay. So when you receive a tax credit
5 subsidy, do you immediately use those for
6 construction and then sell those and then use to
7 finance your construction or are you using that
8 capital to finance ongoing?

9 A. It's all used to finance the
10 construction.

11 Q. All used to finance the construction.

12 A. Well, yeah, that's right.

13 Q. So when you sell one of your projects,
14 you're not transferring any tax credits over to the
15 owners that you've received?

16 A. No. And, in fact, the transfer is
17 awfully complicated, so it's very difficult to do.

18 Q. Okay. Walk me through, one more time,
19 the financing of your project. You were talking
20 about how you were having difficulty getting
21 financing terms that you would like to have from
22 Wall Street based off of the difficulty of looking
23 at 20-year periods.

24 Let's assume that this is approved, it's
25 approved by all the other states, it goes live, at

1 **that point, walk me through a financing of your**
2 **project and how that would change?**

3 A. The key thing that would change is a
4 couple things. The way that the financing works is
5 the banks look at it and say, okay, how many
6 megawatt hours of power are you going to sell to
7 your buyer? We're going to look at that number and
8 then, you know, add it up for 20 years, and that's
9 the amount of money that we're willing to loan you,
10 because we want to make sure that you use those
11 proceeds to repay us. So what would change is a lot
12 of the discounts that they apply before they get to
13 that bottom number would go away, the curtailment
14 risk goes away, the uncertainty of what transmission
15 costs ten years from now goes away.

16 **Q. And let me pause you right there. Are**
17 **those going away because you are now being able to**
18 **enter into long-term contracts?**

19 A. Because we have a long-term contract
20 with Clean Line, so we would have a long-term
21 binding commitment from Clean Line that this is the
22 price.

23 **Q. So the banks would look at the --**

24 A. Right.

25 **Q. -- revenue stream and the contract so**

1 they could guarantee the revenue stream for as long
2 as your contract is?

3 A. Right. In our case, it would be an
4 expense against that revenue. But, yeah, they could
5 guarantee that we could have a better sense of what
6 the profit will be because the expense line would be
7 fixed.

8 Q. Okay. And what are the -- okay. So
9 you're paying a premium for the risk and the
10 unknown. Give me ballpark, in your opinion, of what
11 that represents into a percentage of savings or less
12 expense to your organization if this goes through
13 and you're able to book the 20-year contract with
14 Clean Line?

15 A. That's a good question. In western
16 Kansas, because of, you know, similar to what the
17 commissioner witnessed, and some public statements
18 that were made, many of the financing entities are
19 assuming curtailments as high or higher than 10 to
20 15 percent per year. So 10 to 15 percent of the
21 power that we estimate we will be able to, you know,
22 generate through the technology and science is never
23 going to make it to the other end. So I think the
24 best way to think about that is that we would argue
25 with the banks, and, you know, with the support of

1 Clean Line that that 10 or 15 percent discount that
2 they're taking right off the top would not be
3 relevant anymore because we wouldn't face that
4 curtailment risk so that --

5 Q. So you would take your production,
6 annual production, and the amount that you're able
7 to sell it at, and you'd say, okay, we are now able
8 to deliver that 10 or 15 percent?

9 A. That you guys were taking away from us.

10 Q. Okay. Now, and maybe you cannot answer
11 this, and if so, just let me know. So you're
12 running into these difficulties because SPP calls
13 and says, hey, we need you to shut down production
14 or slow down production. This goes through and they
15 turn this transmission line over to PJM, will PJM
16 have the authority to then call you and say, you
17 need to, we're having a problem, there's too much
18 coming in, are they the ones that could curtail your
19 production?

20 A. I don't know. I would have to defer to
21 Clean Line on that.

22 Q. And wouldn't there still be an inherent
23 risk to the financiers that yes, you're still going
24 to have a discount on your financing because you're
25 always at the bequest of the RTO that you might have

1 **to slow down production based off of?**

2 A. You know, the arrangement between Clean
3 Line and PJM, I'm not as familiar with it because
4 it's continuing to evolve. I think, you know,
5 generally speaking, if we are curtailed, it depends
6 on where we get curtailed as well.

7 One of the nice things about the MISO
8 market in Missouri and the PJM market furthest east,
9 is that they tend to be for more liquid. Meaning,
10 there's trades that happen all the time. And SPP,
11 it's considered to be a thin market. Meaning, if I
12 can't sell it to you, I can't sell it to anybody.
13 So what I can tell you is my experience in a place
14 like Texas, in ERCOT, where it's a pretty liquid
15 market is, if the buyer can't take the power because
16 he's being curtailed, I have the opportunity in MISO
17 and SPP -- or MISO and PJM, excuse me, to sell it
18 directly into the market and take that. So it may
19 not be as good as whatever that contract price is,
20 but there's still some revenue. Whereas, SPP it
21 would be stalled.

22 **Q. Are you experiencing more of a**
23 **curtailment because you're in SPP? If you were in**
24 **MISO would you not have as much curtailment?**

25 A. We don't believe there will be as much

1 because there's more, the supply and demand numbers
2 are closer to each other. The problem in western
3 Kansas is again, the demand for power isn't quite as
4 robust as it is in a place like, you know, Missouri,
5 for sure.

6 Q. Okay. So are all the 2,000 megawatts
7 that you're having production or planning, will all
8 these be put on hold assuming this is where they
9 would all go?

10 A. We -- that's what these are intended
11 for.

12 Q. Okay. And they're looking at 4,000, so
13 basically, half of the energy that's flowing is
14 going to come from your organization?

15 A. We certainly hope so.

16 Q. Okay. And then if there is a
17 curtailment of PJM or something, and they say, okay.
18 How do they choose whether or not it's one of yours
19 or how -- because that's obviously if you're
20 providing half?

21 A. Right.

22 Q. How is that -- how are they deciding
23 which one?

24 A. I would have to defer to Clean Line
25 again. We haven't seen what Clean Line's proposed

1 tariff is going to look like, and I think that will
2 determine.

3 In transmission systems, generally,
4 there are entities where you buy what's called firm
5 transmission and non-firm transmission, for
6 instance. And if you're non-firm, then you're cut
7 off before the guys that get firm transmission. But
8 we haven't had that detailed level of commercial
9 discussion with Clean Line or Grain Belt to know if
10 that's the structure they're going to go for or if
11 it's something different.

12 **Q. Now, did your organization approach**
13 **Clean Line in collaboration to promote or suggest**
14 **this transmission line or did you hear about it**
15 **after the fact and say, finally, we have a place to**
16 **transmit our power? How did that arrangement come**
17 **about?**

18 A. My CEO has known Mike Skelly for a long
19 time. I don't, you know, Clean Line was such a
20 revolutionary idea in the industry it's, you know,
21 sort of as soon as they showed up, everybody knew
22 about them. And they have been very good at
23 engaging with the industry. I don't know if we
24 called them first or they called us first. But I
25 can tell you that we have been working very closely

1 together for several years.

2 Q. Is Mr. Skelly, or any of the people at
3 Clean Line founders or investors of anybody at your
4 organization?

5 A. No.

6 Q. Commissioner Hall asked you, on page 4
7 of your testimony, you're talking about how no other
8 projects are available to export Kansas wind power.
9 And then he asked you some questions about that. So
10 if this project were not to come to fruition, are
11 you going to continue with all of these projects?
12 You said you had some other options, but what would
13 happen to your organization if this project did not
14 move forward?

15 A. Yeah, as I mentioned, it would require
16 us to do a significant redesign of what we're going
17 to do out there. So instead of -- for large
18 projects, maybe they get broken up into
19 significantly smaller projects. They certainly
20 would all be delayed. We mentioned the 2017-2018
21 timeframe, those would get pushed, you know, further
22 out into the future, because we would have to
23 reenter the queue and start working with SPP in
24 terms of what we're going to do in that region.

25 Q. So you would not cancel all of your

1 projects that are not built because you don't have a
2 way to transmit the power?

3 A. I'm not entirelyly sure. I think we'd
4 have to wait and see what would happen at that point
5 and look at the market look at what we could
6 potentially do.

7 Q. So you currently, at this point, with
8 all the projects of the your existing facilities
9 that are currently generating power, you have the
10 ability to send that power somewhere so that your
11 company can exist?

12 A. That's right. That's right.

13 Q. You made the comment, and then also it
14 was kind of brought about with your conversation
15 with Commissioner Hall, the only way to get, in your
16 opinion, I think you stated the only way to get
17 Kansas wind energy out is through a merchant line?

18 A. Right.

19 Q. Right. Okay. And you made a statement
20 that you thought it was, and maybe I'm paraphrasing,
21 so please clarify, that it was unlikely that an
22 investor-owned utility would do a project like this
23 type because they would have to go through rate base
24 and then prove public need?

25 A. Right. Yeah, benefit. In Kansas, I

1 mean.

2 **Q. In Kansas?**

3 A. Right.

4 **Q. Explain to me then how I should prove to**
5 **myself the public need for Missouri here if, based**
6 **off your comments, that if a public utility were to**
7 **bring this project forward that you would find it**
8 **unlikely it would proceed?**

9 A. Because you would be benefiting from the
10 cheap power. I mean, essentially, you know, the
11 rate payers in Missouri are going to be benefiting
12 from 500 megawatts of two to three cent power that's
13 fixed rate for 20 years, unlike, you know, fossil
14 fuel plants that vary. Whereas, the Kansas rate
15 payers, because all the power is going to be
16 delivered into Missouri, in a different RTO, and we
17 have all the seams issues, would not benefiting from
18 that cheap power. So the rate payers in Missouri
19 are clearly benefiting, you know, predictable rates,
20 cheap power, you know, not subject to the nuances of
21 the natural gas markets. Whereas, the ones in
22 Kansas, you know, because they wouldn't be receiving
23 that power, they can't benefit from it.

24 **Q. So, you know, in Illinois, there's a lot**
25 **of merchant providers, you know, that build a plant**

1 and put energy out. How is that? How is that? Is
2 that just because we're a vertically integrated
3 state? If all the states were not vertically
4 integrated, would you be having this problem of
5 having to go through a merchant?

6 A. We've seen a lot of the merchant power
7 plants, I assume that's what you're referring to in
8 Illinois. Well, a lot of those were built in a
9 different time. I don't think you're seeing a
10 lot -- you're seeing independent power producers,
11 people like us, and people who buy our projects.
12 But typically, most of those now have long-term
13 contracts because, frankly, the guys that went
14 merchant in 2007 got burned pretty badly.

15 So regardless of whether you're
16 vertically integrated or whether you're in a retail
17 choice state, sometimes they're called that, or a
18 more fragmented market. It's -- you, a wind
19 generator, even in a place like ERCOT where this is
20 kind of common, can't easily get financing unless
21 they have at least a 12 or 15-year offtake contract
22 with someone. Somebody who's going to agree to buy
23 that power at a fixed price for 12 to 15 years.

24 So, you know, a lot of those merchant
25 plants in Illinois, unfortunately, are not solvent

1 at the moment or were sold at a discount.

2 **Q. So but if you had the cheapest product,**
3 **why would someone not want to do a long-term**
4 **contract to purchase that power, if you have a 4**
5 **cent?**

6 A. We agree. If they have access to the
7 power, we agree that they would want to buy the
8 power for that cheap price. Right now, the wind
9 generators that are generated in Illinois I don't
10 believe are as low as we are because their resource
11 isn't as high quality.

12 **Q. And is all the power in Kansas funded by**
13 **four cents per kilowatt hour from wind?**

14 A. Well, Kansas is a state, I mean, they
15 have a very mixed portfolio. I mean, they have coal
16 plants, they have wind plants, they have some
17 natural gas.

18 **Q. So are there natural gas plants and coal**
19 **plants providing less expensive energy than what you**
20 **can provide?**

21 A. Those contracts are held pretty closely,
22 so it's hard for me to know. We've tried to back
23 into a lot of the pricing, and of course,
24 particularly with the gas plants, because not many
25 people other than Holcomb. Gas is what's been

1 poplar. It's just hard to judge it because part of
2 what a gas plant has to deal with is the volatility
3 of the natural gas market. So they may be providing
4 power now that's less expensive, but two years ago
5 or three years ago, you know, it was more expensive.
6 And it's hard to know what it's going to be in the
7 future. There's people now that talk about \$3 to \$4
8 gas as if it's a hard and fast reality, but I
9 remember being in this business in 2008 when gas was
10 \$12. And the profile of the natural gas plant is
11 very different in the \$12 world than in a \$4 world.

12 **Q. So if someone were to ask me off the**
13 **street and say, why isn't Kansas, why aren't the**
14 **people of Kansas using this cheap wind power that's**
15 **there as much as they possibly can, and why do they**
16 **now want, these companies want to export it out**
17 **rather than sell it to the people in their home**
18 **state who are choosing to buy it from other**
19 **providers? What would a laymen's term answer to**
20 **them be, beyond not getting into the reliability and**
21 **capacity and things of that nature?**

22 **A.** There's more supply than demand. The
23 state of Kansas is a very wind rich resource, it's
24 agricultural, there's not a lot of big cities. The
25 consumption of power is limited based on, you know,

1 some of these demographic issues. However, the
2 availability of, you know, really, really good wind
3 resources, I'm not going to say they're limitless,
4 but they're significant in the western part of the
5 state.

6 **Q. And what percentage of the kilowatt**
7 **hours or the energy of wind that Kansas is**
8 **purchasing comes from your company?**

9 A. I don't know the answer to that right
10 now.

11 **Q. But do you -- I mean, are you a small**
12 **provider? Are you a big provider? Are there**
13 **providers that have been there a longer time?**

14 A. There are providers that have been there
15 a longer time. And, you know, these contracts are
16 20-year contracts, so, you know, part of the issue
17 is is the utility is obligated to buy power from all
18 the people that had signed contracts before us and
19 they'll look at when are those contracts going to
20 fall off versus when they're going to sell?

21 **Q. And they're able to do 20-year contracts**
22 **because there's not the seams issue?**

23 A. That's right. It's inside of Kansas.
24 And the other reason why, of course, is we don't pay
25 for fuel, so they don't have to sit there and guess

1 at what natural gas is going to be 15 years from
2 now. So as long as you're inside the RTO, our
3 company recently signed 25-year contracts in North
4 Dakota, with the utility in North Dakota as a matter
5 of fact.

6 **Q. And your company's size, based off the**
7 **other wind producers in Kansas, where would you rank**
8 **your company's size compared to most of the other**
9 **wind producers?**

10 A. In terms of employees? I would say
11 we're small, we're 15 people. In terms of our
12 footprint in Kansas, I would say we're probably in
13 the middle of the pack. So the two largest are
14 Nexterra and EDF. There's a group of us that are
15 kind of in the middle, and then there's one's that
16 are smaller than us too. So it sort of depends how
17 you do the math.

18 This year, we signed -- the number of
19 contracts that we signed this year in the United
20 States, which I know that number is about 10 percent
21 of the total wind contracts were signed by our
22 company. As far as in Kansas, you know, certain
23 operators don't operate in Kansas, so it's a
24 different number. So I'd say we're kind of in the
25 middle.

1 **Q. And previous to Clean Line coming on the**
2 **scene with this idea, had you planned as many**
3 **projects for the 2,000 megawatt hours or once you**
4 **saw there was a possibility for transmission then**
5 **did you start the process to plan?**

6 A. The latter. We saw it, we talked to
7 them, we believed in it, we've been looking for
8 something like this for a long time, and we got very
9 aggressive as a result of it.

10 **Q. So in reality, there's not a glut of**
11 **wind power sitting there being created and unused,**
12 **it's there is a glut of potential wind power that is**
13 **not being created and used?**

14 A. There are more -- yeah, there's more
15 projects being developed than can be currently
16 supported on the transmission structure, as far as
17 what's operating right now. You could, you know,
18 those projects got built after they already obtained
19 their long-term contracts. So sort of by definition,
20 the market clears.

21 COMMISSIONER RUPP: Thank you, Judge,
22 that's all.

23 JUDGE BUSHMANN: Recross based on bench
24 questions. Grain Belt?

25 MR. ZOBRIST: No questions.

1 JUDGE BUSHMANN: Wind on the Wires?

2 MR. REED: No questions.

3 JUDGE BUSHMANN: Commission staff?

4 MR. WILLIAMS: No questions.

5 JUDGE BUSHMANN: Rockies Express?

6 MS. DURLEY: No questions.

7 JUDGE BUSHMANN: Reicherts and Meyers?

8 MR. DRAG: No questions.

9 JUDGE BUSHMANN: Show Me Concerned Land
10 Owners?

11 MR. JARRETT: Yes, Judge, one or two.

12 RECROSS EXAMINATION BY MR. JARRETT:

13 Q. Do you remember the conversation you had
14 with Chairman Kenney regarding the capacity factors?

15 A. I do.

16 Q. And you had indicated that Dr. Proctor
17 had gotten his capacity factors from an NRL study;
18 is that correct?

19 A. To my recollection, I think that's
20 right, yeah.

21 Q. And then you said that Dr. Proctor
22 didn't have access to your numbers; is that correct?

23 A. That's correct.

24 Q. And why is that?

25 A. Those numbers are held in high

1 commercial confidence and are not shared with
2 anybody outside of our company. We consider that to
3 be a trade secret.

4 **Q. So no one outside of your company**
5 **received that information?**

6 A. We work with a variety of third-party
7 consultants and meteorologists that help us compute
8 those numbers, and they obviously have seen those
9 under nondisclosure agreements. As have certain
10 utilities that we have talked to about buying power
11 at various stages. Again, under NDA, they have been
12 able to see some of the summary data. The raw data
13 though are only shared inside of our company and
14 with our consultants.

15 **Q. Have you shared any of this information**
16 **with Grain Belt in your negotiations?**

17 A. In response to the RFI, we have shared
18 some very high-level summary data, but nothing, no,
19 not very detailed, just kind of one number.

20 **Q. And did you share that with any of the**
21 **other parties?**

22 A. My understanding, if I'm not mistaken,
23 is some of the RFI data were shared with other
24 parties. But that was the that was the data that we
25 provided to Grain Belt. I did not directly do it, I

1 think Grain Belt provided some of that.

2 Q. I guess what I'm trying to figure out is
3 did Grain Belt get anything that the other parties
4 didn't get because of that protective order that was
5 issued?

6 A. I don't know. I think you'd have to ask
7 Grain Belt. We did not -- the only, all the data
8 that we shared was through that RFI process. So
9 what Grain Belt shared with you, I'm not sure.

10 Q. Well, did -- you said you shared some
11 RFI information, but you don't know which RFI. Did
12 you share all of it?

13 A. If I recall, some of it was redacted,
14 but I don't -- I don't have the redacted copy with
15 me.

16 Q. Okay. And you don't know whether the
17 redacted information was shared with Grain Belt or
18 not?

19 A. I'm sorry. The information we shared
20 with Grain Belt, I believe, some of that was then
21 shared with other parties. But, I believe, prior to
22 it being shared with other parties, parts of it were
23 redacted.

24 Q. Okay. So you shared it with Grain Belt,
25 and you didn't share it the other parties. Is that

1 **what you're telling me?**

2 A. No, I believe we left that up to Grain
3 Belt to disseminate.

4 **Q. But you did share it with Grain Belt?**

5 A. Right.

6 **Q. And then you redacted it when you gave
7 it to the other parties, correct?**

8 A. I believe Grain Belt redacted it. And
9 then asked me if I agreed with the redaction. But
10 Grain Belt was the one that redacted it.

11 MR. JARRETT: I don't have any further
12 questions.

13 Judge, can I move for a recess? We need
14 to talk about this. Apparently, they shared
15 information with Grain Belt that the other parties
16 didn't have access to.

17 THE WITNESS: I believe all they
18 redacted was our name. I mean, we'd have to ask
19 Grain Belt.

20 MR. ZOBRIST: I believe the issue is
21 since Mr. Jarrett never asked for it, but he got
22 what we gave MLA. This is exactly, Judge, what we
23 have shared with MLA. And my understanding is we
24 provided to Mr. Jarrett everything that we provided
25 to MLA and that was the data that we redacted based

1 upon the confidentiality issues that we litigated
2 before you.

3 JUDGE BUSHMANN: That's my understanding
4 too.

5 MR. JARRETT: Okay. That's fine. I
6 just wanted to clarify that. Thanks.

7 JUDGE BUSHMANN: Any questions from
8 Missouri Landowners Alliance?

9 MR. AGATHEN: No questions, Judge.

10 JUDGE BUSHMANN: Redirect?

11 MS. PEMBERTON: Yeah, I think I had a
12 couple of questions, just points of clarification,
13 just briefly.

14 REDIRECT EXAMINATION BY MS. PEMBERTON:

15 Q. There's been some discussion and
16 Mr. Agathen had asked you questions and I believe
17 Commissioner Hall as well, about there's this idea
18 of the future price of what the capacity is going to
19 be on Grain Belt's line, and we don't really know
20 what that's going to be. Correct?

21 A. Correct.

22 Q. So my question to you is, you operate in
23 a competitive market, correct?

24 A. Yes.

25 Q. So the idea that the capacity would be

1 extremely high would throw you out of the market as
2 far as from a competitive perspective as you compete
3 with the other energy sources, correct?

4 A. Right. That's right. If it were too
5 high, we wouldn't be competitive.

6 MS. PEMBERTON: Okay. That's all I
7 have. Thank you.

8 JUDGE BUSHMANN: Mr. Langley, you're
9 excused now that completes your testimony.

10 THE WITNESS: Thank you, Judge.

11 JUDGE BUSHMANN: And why don't we take a
12 break for lunch? I think the next witness up is
13 going to be Mr. Goggin.

14 MR. ZOBRIST: No, actually, it was going
15 to be Dr. Bailey. He was going to be our --

16 JUDGE BUSHMANN: Right. But we have to
17 get Mr. Goggin in today, and he's going be
18 testifying by telephone and not by video conference.

19 MR. ZOBRIST: Okay.

20 JUDGE BUSHMANN: So I think we can set
21 that up over the lunch break and then we can take
22 Mr. Goggin in by phone.

23 MR. ZOBRIST: That's fine.

24 JUDGE BUSHMANN: All right. So why
25 don't, if we have to do that why don't we, we'll be

1 in recess until two o'clock.

2 (Recess for lunch.)

3 JUDGE BUSHMANN: The next witness that
4 we have is for Wind on the Wires and The Wind
5 Coalition, and he will be appearing by telephone.
6 Would you like to call your witness please?

7 MR. REED: Yes, Judge. Wind on the
8 Wires and The Wind Coalition calls Michael Goggin.

9 (Witness sworn.)

10 JUDGE BUSHMANN: Mr. Reed, you may
11 proceed.

12 MR. REED: Thank you.

13 MICHAEL GOGGIN testified as follows:

14 DIRECT EXAMINATION BY MR. REED:

15 **Q. Mr. Goggin, you can hear me okay, right?**

16 A. I can, yes.

17 **Q. All right. Tell us your full name.**

18 A. Sure. It's Michael Stephen Goggin.

19 **Q. And where are you employed?**

20 A. I'm employed at the American Wind Energy
21 Association.

22 **Q. What's your role there?**

23 A. I'm the Research Director for the
24 American Wind Energy Association, and that includes
25 coverage of transmission and grid integration

1 issues.

2 Q. Mr. Goggin, where are you now?

3 A. I'm in Washington D.C.

4 Q. All right. Sir, previously you have
5 prepared rebuttal testimony and cross rebuttal
6 testimony in this case; is that correct?

7 A. That's correct.

8 Q. I've marked those as Exhibit 700 and
9 701. The rebuttal would be 700. Do you have copies
10 there with you?

11 A. I do, yes.

12 Q. Do you have any corrections to that
13 testimony?

14 A. No.

15 Q. If I were to ask you the questions that
16 are set forth in both your rebuttal testimony and
17 your cross or surrebuttal testimony, if I were to
18 ask you those questions again, would your answers be
19 the same?

20 A. Yes.

21 Q. And did you answer those questions under
22 oath and supply an affidavit with your testimonies?

23 A. Yes, I did.

24 MR. REED: Judge, at this time, we would
25 move to admit Exhibit 700 and 701 into evidence.

1 JUDGE BUSHMANN: Are there any
2 objections?

3 MR. AGATHEN: I do, Judge. I object to
4 portions of Exhibit 700, the testimony of the
5 witness at page 5, lines 128-131, where it testifies
6 that the energy costs submitted from one developer
7 to Grain Belt's request for information were quite
8 low. And my objection is the same one I raised
9 regarding Mr. Berry's testimony and our motion to
10 strike.

11 JUDGE BUSHMANN: So this is, you're
12 making the same objection that you did in that
13 motion to strike for the purposes of preserving the
14 record?

15 MR. AGATHEN: Essentially, yes.

16 JUDGE BUSHMANN: Okay. Well, I believe
17 I've already ruled against that, so that will be
18 overruled.

19 Exhibit 700 and 701 are received into the
20 record.

21 (WIND ON THE WIRES EXHIBITS 700 AND 701
22 WERE RECEIVED INTO EVIDENCE.)

23 MR. REED: And I'll tender the witness
24 at this time, Judge. I might ask though where I'm
25 sitting there is not a microphone. Shall I move up

1 here to the front?

2 JUDGE BUSHMANN: That might be best.

3 MR. REED: All right. Thank you.

4 JUDGE BUSHMANN: First cross-examination
5 is by Grain Belt.

6 MR. ZOBRIST: No questions.

7 JUDGE BUSHMANN: Commission staff?

8 MR. WILLIAMS: No questions.

9 JUDGE BUSHMANN: Rockies Express?

10 MS. DURLEY: No questions.

11 JUDGE BUSHMANN: Reicherts and Meyers?

12 MR. DRAG: No questions, your Honor.

13 JUDGE BUSHMANN: Show Me Concerned

14 Landowners?

15 CROSS-EXAMINATION BY MR. JARRETT:

16 Q. Good afternoon, Mr. Goggin.

17 A. Hi. Good afternoon.

18 Q. My name is Terry Jarrett and I represent
19 the Show Me Concerned Landowners and the Missouri
20 Farm Bureau. Can you hear me okay?

21 A. I can, yes.

22 Q. All right. I'll try to make sure I
23 speak directly into the microphone.

24 And I want to refer you to your cross
25 rebuttal testimony.

1 A. Okay.

2 Q. Is one of your concerns in your cross
3 surrebuttal the limited wind deliverability for
4 power generated from wind farms located in the high
5 wind areas of the northwestern MISO?

6 A. Mmm-hmm.

7 Q. Is that yes?

8 A. Yes. Yes.

9 Q. More specifically, you talk about
10 increased curtailments of wind from 2012 to 2013 as
11 evidence of the limited wind deliverability in this
12 region, correct?

13 A. That's correct.

14 Q. Do you know how much of this increase is
15 due to MISO's change in reporting of wind
16 curtailments?

17 A. I do not. And that was something that I
18 did note in my cross rebuttal that, you know, that
19 potentially is a source of uncertainty in the
20 numbers. But in looking in more detail at the
21 numbers that have been reported by MISO, it is clear
22 that the total curtailment is increasing.

23 Q. Okay. Do you know how much of this
24 increase is due to wind curtailments -- excuse me,
25 strike that.

1 **Do you know how much of this increase is**
2 **due to curtailments of wind because of low demand**
3 **for electricity?**

4 A. I would expect it is very small. The
5 curtailment typically occurs because the wind
6 projects are located distant from load centers and
7 the transmission capacity is necessary to deliver
8 that energy to load centers. There's typically very
9 little, if any, load, a very small amount of load on
10 the wind project's side of the congestion. So,
11 therefore, I don't expect that any change in
12 electricity demand would have a major impact on this
13 curtailment.

14 **Q. Are you aware of proposals to build**
15 **transmission lines to relieve this congestion and**
16 **allow greater deliverability of wind energy from**
17 **western MISO?**

18 A. Yes, I am.

19 **Q. Can you list some of those transmission**
20 **projects?**

21 A. Sure. There are a number of projects
22 that are called the multi-value projects. I've
23 testified on behalf of several of them. And they
24 are designed to reduce curtailment and congestion
25 and increase deliverability of wind energy from

1 western parts of MISO to other parts of MISO.

2 **Q. And is it your belief that many of these**
3 **projects by the time of their completion will be**
4 **fully subscribed by existing or under construction**
5 **wind farms?**

6 A. It is, yes, I do believe that.

7 **Q. Do you know whether all or most of the**
8 **energy or RECs from the wind farms that will go into**
9 **operation upon completion of these projects is**
10 **already contracted utilities other than Ameren**
11 **Missouri?**

12 A. Some of the wind generation has signed
13 power purchase agreements, some have not.

14 **Q. And do you know which ones?**

15 A. Off the top of my head, I don't.
16 There's, you know, power purchase agreements are
17 typically, you know, filed at FERC, there's often a
18 delay in that. And so much of the information I've
19 seen on that has come from, you know, public press
20 reports of what, you know, power purchase agreements
21 have been signed. So it's more anecdotal. I don't
22 have comprehensive data on that.

23 **Q. So you don't know at this point how much**
24 **of that might be available to Ameren Missouri?**

25 A. I don't.

1 **Q. Are you familiar with MISO's**
2 **transmission planning process?**

3 A. To some extent, yes.

4 **Q. Do you believe that FERC Order 1000 has**
5 **had significant impact on MISO's transmission**
6 **planning?**

7 A. MISO already had a very robust
8 transmission planning process through the MTEP
9 process and the RGOS process, Regional Generation
10 Outlet Study. And I believe that those, you know,
11 predate the provisions of Order 1000. And I don't
12 believe that Order 1000 has significantly changed
13 MISO's approach to transmission planning or cost
14 allocation, which are really the key hurdles in
15 getting transmission built.

16 **Q. Has it had any positive impact?**

17 A. I think probably some, yes, a small
18 amount though.

19 **Q. Well, do you believe that FERC Order**
20 **1000 would cause MISO to construct more transmission**
21 **upgrades to relieve congestion than before that**
22 **order?**

23 A. It could potentially have a very small
24 impact, but again, MISO already had processes in
25 place that were quite effective at planning and

1 building transmission.

2 Q. Does FERC Order 1000 require MISO to
3 evaluate public policy benefits in its evaluation of
4 the benefits of proposed transmission projects?

5 A. Yes. The language of Order 1000 states
6 that public policy requirements must be considered
7 in the transmission planning process.

8 Q. And would you agree that providing
9 transmission for the delivery of renewable energy is
10 a public policy benefit?

11 A. Yes, when it's used to meet state
12 renewable portfolio standards, yes.

13 Q. Does FERC Order 1000 require MISO to
14 construct transmission projects that reduce
15 congestion when the benefit-cost ratio is above
16 1.25?

17 A. I am not sure. I don't recall.

18 Q. All right. Do you know whether it was
19 MISO's policy prior to FERC Order 1000 that a
20 project had to have a benefit-cost ratio above 3?

21 A. I don't recall. I'm sorry.

22 Q. Okay. Do you agree that MISO cost
23 allocation will result in Ameren Missouri rate
24 payers paying for some portion of upgrades to
25 enhance the deliverability of wind and reduce the

1 **congestion in the northwestern regions of MISO?**

2 A. It is true that the multi-value projects
3 and the cost allocation methodology that MISO has
4 proposed broadly allocates those costs across the
5 entire MISO footprint. So, yes, to the extent that
6 those transmission projects proceed, those costs
7 would be broadly allocated to all rate payers in the
8 MISO footprint.

9 Q. **And do you believe that if Ameren**
10 **Missouri rate payers are paying for a portion of**
11 **these upgrades, they should be entitled to receive**
12 **some of the benefits?**

13 A. That would be speculation on my part. I
14 didn't design the policy. I just know that, you
15 know, this is how transmission is paid for when you
16 have this type of policy, and it recognizes that
17 there are broadly spread benefits of the
18 transmission, and, but, you know, going beyond that,
19 I don't have any normative judgment as to whose
20 entitled to anything.

21 Q. **All right. So your answer to that is, I**
22 **don't know?**

23 A. Yes. I don't know.

24 Q. **Okay. I want to refer you specifically**
25 **for the next couple of questions to page 8 of your**

1 **cross rebuttal.**

2 A. Okay.

3 **Q. Lines 202 to 207?**

4 A. Okay.

5 **Q. And there's a sentence that begins, as I**
6 **explained.**

7 A. Mmm-hmm.

8 **Q. Do you see that?**

9 A. Yes.

10 **Q. Could you read that sentence and the**
11 **sentence after that please?**

12 A. Sure.

13 As I explained in my direct testimony,
14 transmission congestion and wind curtailment impose
15 a major economic cost on wind developers and
16 utilities purchasing wind energy, and are a major
17 impediment to further wind development in congested
18 areas. As such, the development of renewable energy
19 in northwestern MISO, or any other area, is not a
20 viable alternative to the construction of Grain Belt
21 Express or GBE.

22 **Q. All right. In that statement, you use**
23 **the words "major economic cost" and "major**
24 **impediment for wind developers" to describe the**
25 **transmission congestion and wind curtailment,**

1 correct?

2 A. That's correct.

3 Q. By impediment to further wind
4 development, is it your belief that no new wind
5 development will take place in northwest MISO region
6 because of these costs and impediments?

7 A. I don't know that it would be, no, but
8 it would significantly -- it would significantly
9 impair development. You know, the congestion and
10 curtailment costs are very significant. And, you
11 know, that is a, you know, a major factor in
12 developer's decision of where to build, and if to
13 build wind projects, as well as the utility's
14 decision to purchase wind energy.

15 Q. But your answer isn't that there's zero
16 development, it's just limited, correct?

17 A. It would be severely limited.

18 Q. Is it your belief that any new wind
19 development that takes place in MISO will not be
20 available to Ameren Missouri?

21 A. Can you please repeat the question?

22 Q. Sure. Is it your belief that any new
23 wind development that takes place in MISO will not
24 be available to Ameren Missouri?

25 A. No, I don't believe that.

1 **Q. So you do believe that wind power will**
2 **be available to Missouri?**

3 A. If there was wind developed in MISO, it
4 could be available to Ameren.

5 **Q. Okay. Is it your belief that congestion**
6 **and wind curtailment in MISO is so bad that Ameren**
7 **Missouri will not be able to purchase any energy and**
8 **capacity energy only or RECs from MISO wind farms or**
9 **is it that the costs of such purchases make them an**
10 **uneconomic alternative?**

11 A. I believe that the amount of renewable
12 resource that could be available is being severely
13 limited by transmission congestion and curtailment,
14 and the impact of that is to increase the price of
15 the renewables that are available, so some of both.

16 **Q. And what costs do you include in major**
17 **economic costs for wind developers?**

18 A. The cost there is typically that your
19 capital cost of a wind project, which, you know,
20 accounts for the vast majority of the total cost of
21 the project, as well as the other fixed costs, must
22 be allocated across a fewer number of megawatt hours
23 of revenue potential. And as a result, when a
24 project faces curtailment that cuts into its
25 potential revenue and requires those fixed costs to

1 be allocated across a smaller number of revenue
2 hours. Given that wind projects face very narrow
3 margins of profitability, you know, even a couple of
4 percent curtailment, can totally erase any, you
5 know, profit margin, and thus the economic viability
6 of a wind project.

7 **Q. Have you performed an economic analysis**
8 **to show that MISO wind is not a viable economic**
9 **alternative?**

10 A. I have not. This is informed based on
11 experience and my expert opinion, and, you know,
12 anecdotal discussions with wind energy developers
13 through the course of my job.

14 MR. JARRETT: I don't think I have any
15 more questions. Thank you, Mr. Goggin.

16 THE WITNESS: Thank you.

17 JUDGE BUSHMANN: Missouri Landowners
18 Alliance?

19 MR. AGATHEN: Thank you, Judge.

20 CROSS-EXAMINATION BY MR. AGATHEN:

21 **Q. Mr. Goggin, my name is Paul Agathen.**
22 **I'm representing the Missouri Landowners Alliance.**

23 A. Okay. Great. Hi.

24 **Q. Hi. At pages 7-9 of your testimony,**
25 **your rebuttal testimony, you discuss capacity**

1 factors in various regions of the country for wind
2 generation projects; is that generally correct?

3 A. I'm sorry? It was difficult to hear at
4 the end there. Was there a question? I'm sorry.

5 Q. Yeah.

6 JUDGE BUSHMANN: You might need to speak
7 directly into the mic.

8 Q. You're discussing capacity factors in
9 various regions of the country for wind generation
10 projects; is that generally correct?

11 A. That's correct, yes.

12 Q. And at page 9, you discuss the
13 importance of capacity factor on a per unit cost of
14 energy, right?

15 A. Correct. Yes.

16 Q. Are you aware of the fact that when
17 Mr. Barry calculated the levelized cost of the
18 Kansas wind, which might connect to the proposed
19 line, he used a capacity factor of 55 percent?

20 A. I did see that, yes.

21 Q. I'd like to direct your attention please
22 to page 8 of your rebuttal testimony, line 193. Do
23 you see that?

24 A. Yes, I do.

25 Q. What was the average capacity factor of

1 **wind projects, which went into service in 2012 in**
2 **the region, which includes Kansas?**

3 A. That was 38.1 percent and that was,
4 again, for the projects that wind is serviced in
5 2012, there was, you know, a significant improvement
6 particularly the adoption of low wind speed turbines
7 even in the relatively high wind resource areas like
8 western Kansas that would, you know, a project being
9 installed today or into the future would have
10 significantly higher capacity factors.

11 **Q. Although those projects went into**
12 **service in 2012 isn't the data based on 2013 data?**

13 A. That's correct. That's the wind
14 production in 2013. Because, you know, if a project
15 entered service in 2012, there would not be a full
16 year's worth of data to analyze the production in
17 2012. So 2013 is the first year that's available.
18 But in terms of, you know, the technology that was
19 used, you know, a wind project that was installed in
20 2012, and, you know, the turbines were likely
21 ordered and, you know, based on specifications and
22 state of the art technology, you know, several years
23 prior to 2012 even.

24 **Q. But that 38 percent capacity factor is**
25 **based on the latest available data that we have, is**

1 it not?

2 A. That's correct.

3 Q. Looking only at the state of Kansas,
4 your schedule MG-6 shows capacity factors of wind
5 projects installed in Kansas in the years 20 --
6 strike that -- in years 2001 through 2013; is that
7 correct?

8 A. That's correct, yes.

9 Q. And as you note in your rebuttal
10 testimony at page 8 lines 20 -- 200, excuse me to
11 201, the average capacity factor for the Kansas wind
12 generation last year was only 40.1 percent; is that
13 correct?

14 A. That's correct. That was the fleet
15 average for all of those projects that were
16 installed in a variety of years.

17 Q. And it appears from your schedule MG-6
18 that the highest capacity factor for any project in
19 Kansas for any of the last 12 years or so was only
20 44.9 percent; is that correct?

21 A. For projects that were installed in any
22 of those last years, but the numbers that are
23 provided are the capacity factors in 2012 and 2013.
24 But yes, that's correct.

25 Q. On a different subject. You're familiar

1 with the U.S. Department of Energy report titled,
2 2013 Wind Technologies Market Report, are you not?

3 A. Yes, I am.

4 Q. That was issued just this past August?

5 A. Yes, I am.

6 Q. Do you have a copy of that with you?

7 A. I do.

8 Q. Thank you.

9 MR. AGATHEN: I'd like to distribute at
10 this time, your Honor, a document that's been marked
11 as Exhibit 325.

12 Q. Exhibit 325 consists of the cover page
13 of that document and pages 59, 61, 65, and 70 that
14 is of the DOE 2013 Wind Technologies Market Report.

15 We're distributing copies here in the
16 room.

17 A. Okay.

18 Q. Page 65 of the report includes a
19 discussion of the impact of state renewable
20 standards on the wind industry; is that correct?

21 A. That's correct, yes.

22 Q. And the last paragraph of page 65, the
23 report notes that state programs will require
24 average annual renewable energy additions of roughly
25 three to four gigawatts of renewables per year

1 through 2025; is that correct?

2 A. That's correct.

3 Q. And the report notes that this
4 requirement is below the average of seven gigawatts
5 of capacity added each year from 2007 to 2013,
6 correct?

7 A. That's correct.

8 Q. And they conclude that this demonstrates
9 the limitations of relying exclusively on state RPS
10 demands to drive future wind power development?

11 A. That's correct.

12 Q. Turning to page 70 of that report.

13 A. Okay.

14 Q. That summarizes the results of about 27
15 studies, which quantified what are commonly called
16 wind integration costs; is that correct?

17 A. That's correct.

18 Q. Is it fair to say that all of those
19 reports found that wind integration costs amounted
20 to some positive non-zero number?

21 A. That is correct.

22 Q. Meaning that all the reports found that
23 the addition of wind generation added some level of
24 wind integration costs to the sink system?

25 A. So it's important to note, that is

1 correct, the integration there is a calculable
2 integration cost per any resource of any
3 conventional resource of any type would also have a
4 comparable, you know, comparable that it is a
5 positive number, integration cost. So that should
6 be noted in the context here. But, yes, that is
7 correct.

8 **Q. But they don't amount to that level as**
9 **the wind integration cost?**

10 A. Well, it depends. Some of the
11 integration analysis that have been done in ERCOT,
12 the grid operator for Texas, the data that's
13 available on their reserve costs indicates that the
14 integration costs for conventional generators,
15 basically, the reserves that are used for forced
16 outages are larger than the integration costs for
17 wind. And that's on both a total dollar amount and
18 also on a dollar per megawatt basis.

19 **Q. Well, you unfortunately weren't here for**
20 **Mr. Zavadil's testimony yesterday, were you?**

21 A. No, I was not.

22 **Q. You didn't hear him talk about the low**
23 **level of integration costs for base load coal**
24 **plants?**

25 A. I did not.

1 **Q. Is it fair to say, just looking at the**
2 **chart that the wind integration costs tend to fall**
3 **around the \$4 to \$5 per megawatt level?**

4 A. It's heavily dependent on the grid
5 operating procedures that are in place in our region
6 --

7 **Q. But just the data shown there though?**

8 A. -- in a portion of this report, there
9 was a breakout of this information that split
10 regions into areas that have efficient, fast
11 dispatch markets and efficient operating procedures,
12 and those areas that don't. And -- and you can see
13 that, you know, based on the information of, you
14 know, indicating which study in which geographic
15 area is reflected by which cost that areas such as
16 the ones we're discussing today in Missouri that are
17 part of interstate ISOs, such as the southwest power
18 pool or the mid-continent ISO, have integrated costs
19 that are significantly lower than those calculated
20 for areas that are outside of ISOs. So as a result,
21 it's difficult to, you know, reach a national
22 average number. It is heavily dependent on the
23 market structure in which you're seeking and for
24 MISO regions like Missouri, the numbers are
25 significantly lower than the range you cited, \$4 to

1 \$6.

2 Q. Granted. But this report does not break
3 those out, do they?

4 A. It does not except for, aside from the
5 fact that it points out that, you know, the studies
6 listed along the right, it indicates which region.
7 And, you know, you can look and see for, you know,
8 for example STP or MISO to see what the numbers are
9 for ERCOT.

10 Q. Is it fair to say that for the most part
11 that wind integration costs increase as the level of
12 penetration of the wind energy increases up to 15,
13 20 percent, or so?

14 A. That is correct.

15 Q. Does page 10 of the DOE report show that
16 last year Kansas ranked second in the nation in new
17 wind capacity additions?

18 A. The amount that was installed in 2013,
19 yes, that's correct, not the cumulative amount.

20 Q. Right.

21 MR. ZOBRIST: Do you have page 10
22 available?

23 MR. AGATHEN: I do not.

24 Q. And does that page also show that 80
25 percent of the wind generated in Kansas was exported

1 to other states?

2 A. I do not see that on this page.

3 Q. My apologies.

4 A. I see what you're referring to. That is
5 not stating, the right column there, it says,
6 19.4 percent in-state generation that is not saying
7 that 80 percent is exported. What that's stating is
8 that the amount of wind generation that occurred in
9 Kansas accounts for 19.4 percent of the total
10 generations of all resources in Kansas.

11 Q. Thank you.

12 On a different subject. Is it fair to
13 say at this point that we don't know if the
14 production tax credit for wind generation will or
15 will not be renewed?

16 A. That is correct.

17 Q. And that amounts to about 2.3 cents per
18 kilowatt hour?

19 A. That's correct.

20 Q. So if it's not renewed, the cost of the
21 Kansas wind generation, not including transmission
22 will roughly double, right?

23 A. I'm doing math in my head. Is this
24 based on the levelized cost of energy numbers?

25 Q. If you're assuming -- if you're assuming

1 that Mr. Berry's numbers are right, and you use a
2 figure of approximately two cents. And my question
3 is, if the production tax credit is not renewed,
4 does that roughly, ballpark, double the cost?

5 A. It would be in that ballpark, probably a
6 little less than that, but, yes.

7 Q. Is it safe to say that as of today, no
8 rational wind developer would agree to sell energy
9 at two cents per kilowatt hour flat without any
10 escalation contingencies?

11 A. I'm not sure. I don't have information
12 from developers to say that or not.

13 Q. Well, they couldn't sell it for two
14 cents if there was a reasonable chance that the
15 production tax credit would not be renewed, could
16 they?

17 A. Well, the production tax credit applies
18 for the ten years, the first ten years that a wind
19 project is in operation. And it is known in advance
20 before a wind project is built if it qualifies or
21 not for the production tax credit, so there is no
22 risk or uncertainty for a project that's already
23 begun construction or that had begun construction
24 when the PTC was in effect that it would qualify for
25 the production tax credit.

1 **Q. Right. And my question was, as of**
2 **today, would any rational wind developer sign an**
3 **agreement, sign it right today for two cents flat**
4 **without any provision for escalations in case the**
5 **production tax credit is not renewed?**

6 A. That would be speculation.

7 **Q. What would be speculation?**

8 A. It would be speculation for me to guess
9 as to what a wind developer would do. There is a
10 very strong likelihood that the production tax
11 credit will be extended, but it is not certain.

12 **Q. But if they sign for two cents a**
13 **kilowatt hour today, they'd be gambling that the**
14 **production tax credit was renewed, would they not?**

15 A. That is correct based on the rough
16 pricing that we've discussed and the cost, yes.

17 **Q. On a different subject. Do you recall a**
18 **data request we sent to you asking for information**
19 **on wind energy purchased and signed in the last four**
20 **years in the region you refer to at page 5, lines**
21 **130 to 141 of your rebuttal?**

22 A. Yes, I do.

23 **Q. And a second data request, do you**
24 **recall, we asked for information about wind energy**
25 **purchase power agreements signed in the last four**

1 years in Missouri?

2 A. Yes, I do.

3 Q. And after some back and forth between
4 your counsel and me, it was determined that you did
5 not have those numbers for the purchase power
6 agreements; is that correct?

7 A. That is correct.

8 Q. Did you bring with you your testimony
9 from two Illinois Commerce Commission cases that I
10 said I'd be asking about?

11 A. Yes, I did.

12 Q. Thank you. I appreciate it.

13 The first one is from Illinois Commerce
14 Commission, Case Docket Number 12-0560.

15 A. Okay.

16 Q. And that involved the Rock Island Line,
17 the sister line to Grain Belt, correct?

18 A. That's correct.

19 Q. If I could direct your attention to page
20 5 of your testimony.

21 A. Okay.

22 Q. You have heard of the National Renewable
23 Energy Laboratory, correct?

24 A. Yes.

25 Q. And they publish data every year for

1 each individual state with estimations of potential
2 wind generation capacity, and then the total energy
3 output for that state?

4 A. That's correct.

5 Q. That's called NREL for short?

6 A. Yes.

7 Q. Directing your attention to page 5, line
8 117. You start there testifying as follows:

9 That NREL's wind resource database
10 includes estimates of potential wind energy
11 production for each state in addition to potential
12 installed wind capacity.

13 A. That's correct.

14 Q. The potential wind production can be
15 divided by the potential wind capacity to arrive at
16 an estimated average capacity factor for the total
17 wind energy resources in each state.

18 Is that correct?

19 A. Yes.

20 Q. That's all I have on that case.

21 And then the other one is before the
22 Illinois Commerce Commission, Docket Number 12-0598.
23 And this is your direct testimony in that case.

24 A. Yes.

25 Q. Could you explain very briefly what that

1 **case was about?**

2 A. So this is for the Illinois River's
3 Project, which is one of the multi-value projects
4 that I mentioned previously. It is -- would be a
5 line that would cross the state of Illinois.

6 **Q. From where?**

7 A. It would head from -- it would connect
8 across from Iowa, run east and west across the
9 state, Iowa across to Indiana.

10 **Q. And on whose behalf were you testifying**
11 **there?**

12 A. That was on behalf of Ameren Illinois.
13 The testimony was on behalf of Wind on the Wires in
14 that case, but Ameren is the proposed builder of the
15 line.

16 **Q. So you were supporting the line that**
17 **Ameren was proposing to build?**

18 A. That is correct.

19 **Q. Direct your attention to page 2, line**
20 **49.**

21 A. Yes.

22 **Q. You testify there as follows:**

23 "As indicated in the wind resource map
24 in WOW Exhibits 1.1 and 1.2, Illinois and the parts
25 of MISO to the west of Illinois have some of the

1 best wind energy resources in the United States."

2 A. That's correct.

3 Q. And then page 3, beginning at line 61.

4 You testify:

5 NREL's data indicates that North Dakota,
6 South Dakota, Minnesota, Missouri, and Iowa,
7 combined, have a wind energy potential of 2,838,000
8 megawatts, around 34 percent of the total onshore
9 potential in the lower 48 U.S. states, or enough to
10 meet the current electricity needs of the U.S. at
11 least two times over.

12 A. That's correct.

13 Q. And then going to page 7.

14 A. Okay.

15 Q. Line 175.

16 A. Okay.

17 Q. Did you testify:

18 MISO worked with stakeholders in the
19 RGOS process to identify zones where future wind
20 development is likely to occur and would most
21 cost-effectively occur. To identify the most
22 cost-effective wind resource mix, the RGOS analysis
23 carefully balanced generation costs and transmission
24 costs to arrive at the optimal mix of wind
25 resources.

1 **Is that correct?**

2 A. That's correct.

3 **Q. And just by way of explanation, what is**
4 **the RGOS process to referred to?**

5 A. That was the -- I believe, it's the
6 Regional Generation Outlet Study. It's an analysis
7 that was undertaken by MISO.

8 **Q. And looking still at page 7, footnote 5,**
9 **you're quoting the MVP report from page 4 as**
10 **follows:**

11 **"The goal of the RGOS analysis was to**
12 **design transmission portfolios that would enable RPS**
13 **mandates to be met at the lowest deliverable**
14 **wholesale energy cost. The cost calculation**
15 **combined the expenses of the new transmission**
16 **portfolios with the capital costs of the new**
17 **renewable generation, balancing the trade offs of a**
18 **lower transmission investment to deliver wind from**
19 **low wind availability areas, typically closer to**
20 **large load centers; against a larger transmission**
21 **investment to deliver wind from higher wind**
22 **availability areas, typically located further from**
23 **load centers."**

24 A. That's correct.

25 **Q. Just three more.**

1 A. Okay.

2 Q. Over at page 10, line 20 -- 258. Excuse
3 me.

4 A. Okay.

5 Q. You see that? Did you testify there as
6 follows:

7 "As the MISO MVP Report indicates, the
8 Illinois Rivers Project and the broader MVP
9 portfolio greatly reduce consumer energy costs, as
10 "Adjusted Production Cost savings are achieved
11 through reduction of transmission congestion costs
12 and more efficient use of generation resources
13 across the system."

14 A. That's correct.

15 Q. And then in a new paragraph, you
16 continue.

17 "This is not surprising, as the Illinois
18 Rivers Project was designed by MISO as part of a
19 portfolio to satisfy state RPS requirements at the
20 lowest cost for consumers. As the MISO MVP report
21 explains, "The goal of the RGOS analysis was to
22 design transmission portfolios that would enable RPS
23 mandates to be met at the lowest deliverable
24 wholesale energy cost."

25 A. That's correct.

1 Q. And page 12, line 292.

2 A. Okay.

3 Q. You testified:

4 "MISO's analysis found that the Illinois
5 Rivers Project was the optimal solution for
6 resolving a number of economic, reliability, and
7 public policy considerations such as state RPS
8 requirements, and was found to be superior to
9 alternative solutions.

10 A. That's correct.

11 Q. And then finally over at page 27.

12 A. Okay.

13 Q. Starting at line 680.

14 A. Okay.

15 Q. Actually, 679. Start out:

16 Q: Is the equitable allocation of
17 benefits a requirement for transmission project to
18 be included in the MISO MVP portfolio?

19 A: Yes. The MVP report explains that,
20 "A key principle of the MISO planning process was
21 that the benefits from a given transmission project
22 must be spread commensurate with its costs. The MVP
23 cost allocation methodology distributes the cost of
24 the portfolio on a load ratio share across the MISO
25 footprint, so the recommended MVP portfolio must be

1 shown to deliver a similar spread of benefits."

2 A. That's correct.

3 MR. AGATHEN: That's all I have. Thank
4 you.

5 THE WITNESS: Okay. Thank you.

6 JUDGE BUSHMANN: Did you intend to offer
7 Exhibit 325?

8 MR. AGATHEN: Yes, I did, Judge. Thank
9 you.

10 JUDGE BUSHMANN: Any objections to
11 receiving that?

12 MR. ZOBRIST: Well, Judge, I don't have
13 an objection to the report. And if your practice is
14 going to admit this over the objection that I have,
15 which is that we didn't get to see page 10 and
16 that's an incomplete report, I would at least like
17 to have leave to supply on behalf of Grain Belt
18 Express a complete copy of the report.

19 JUDGE BUSHMANN: I would be fine with
20 that. And if you would offer that, I would admit it
21 into the record.

22 MR. ZOBRIST: Great. Thank you. If you
23 could reserve that, Judge, I've got the exhibit
24 number here as Grain Belt Exhibit 124. I'll have
25 that available, if not, tomorrow, when we meet next

1 week.

2 JUDGE BUSHMANN: Then Exhibit 325 is
3 received into the record.

4 (MISSOURI LANDOWNERS ALLIANCE EXHIBIT 325
5 WAS RECEIVED INTO EVIDENCE.)

6 MR. AGATHEN: Thank you, Judge.

7 JUDGE BUSHMANN: Questions by
8 commissioners, Mr. Chairman?

9 CHAIRMAN KENNEY: No questions. Thank
10 you.

11 THE WITNESS: Thank you.

12 COMMISSIONER STOLL: I have no questions
13 either.

14 JUDGE BUSHMANN: Commissioner Hall?

15 QUESTIONS BY COMMISSIONER HALL:

16 Q. Good afternoon.

17 A. Hi.

18 Q. Looking at page 11 of your rebuttal
19 testimony.

20 A. Yes.

21 Q. You discuss the potential importance of
22 renewable energy in Missouri under the 111-D
23 requirements.

24 A. That's correct.

25 Q. And my question for you is, does it

1 **matter where the energy is actually generated under**
2 **111-D?**

3 A. That is an open question that has not
4 yet been resolved as to how broadly EPA will allow
5 compliance, you know, whether a resource has to be
6 generated without a state, within a region, or if
7 there can be a national, you know, with exchange.
8 Certainly, it is confined within the electric
9 sector. But that is still, at this point,
10 unresolved.

11 Q. Okay. And then turning to page 5 of
12 your surrebuttal.

13 A. Okay.

14 Q. On lines 123 to 125 you discuss wind
15 variability.

16 A. Yes.

17 Q. And my question for you is, is it safe
18 to say that the more spread out your wind generators
19 the less variable the energy produced is?

20 A. That's correct.

21 Q. So in this case, in the case before this
22 commission, the particular wind farms that Clean
23 Line is that, I guess, Infinity is considering
24 constructing, how geographically spread out are
25 those wind farms?

1 A. I haven't seen the specific information
2 that was received by the company in response to its
3 RFI for wind project interest. I do know that much
4 of the very fast variability, you know, variability
5 that occurs on second-to-second or minute-to-minute
6 basis, a geographic spread of even a few miles is
7 sufficient so that you get a significant smoothing
8 effect for that fast variability. And that fast
9 variability is what is the most expensive for a grid
10 operator to accommodate because it requires the use
11 of regulation of other fast acting ancillary
12 services. So once you get a geographic dispersion
13 across, you know, even a relatively small area, you
14 know, certainly dozens of miles, which by the virtue
15 of how large a wind plant has to be for wind plant
16 shading and other impacts like that, you know, any
17 amount of wind generation of this quantity would be
18 spread out across that larger area or greater.
19 You'd have a significant smoothing out of that, you
20 know, fast, expensive variability.

21 **Q. What other kind of variability is there?**

22 A. Well, there's slower variability. You
23 know, the stuff that would occur over, you know, 20,
24 30, 40 minutes, several hours. This is typically
25 accommodated through the use of load following

1 reserves, which, you know, typically, can be
2 provided by a non-spinning resource as a much lower
3 cost. You know, be a resource that does not have to
4 be on line, and therefore, it doesn't have the
5 opportunity cost or the fuel cost associated with
6 running, and it can, you know, offer these ancillary
7 services typically a fraction of the cost of a
8 faster acting reserve.

9 COMMISSIONER HALL: Okay. Thank you
10 very much.

11 THE WITNESS: Okay. Thank you.

12 JUDGE BUSHMANN: Recross based on
13 questions from the bench. Grain Belt?

14 RECROSS EXAMINATION BY MR. ZOBRIST:

15 **Q. Mr. Goggin, this is Karl Zobrist on**
16 **behalf of Grain Belt Express. Can you hear me?**

17 A. Okay. Thank you.

18 **Q. In response to Commissioner Hall's**
19 **question about variability. What do the RTOs --**
20 **what are RTOs doing at the present time to manage**
21 **variability?**

22 A. So RTOs already have a very large
23 quantity of operating reserves that they hold for
24 all sources of variability on the power system.
25 And, you know, the largest contributor in all ISO's

1 variability is deviations in load, electricity
2 demand. You also have deviations in the output of
3 conventional generators where they deviate from
4 their expected level of output. And then wind and
5 other resources also experience those deviations.

6 And the grid operator only must
7 accommodate all of those sources of variability, the
8 aggregate change, the aggregate variability of all
9 those put together. And so because of that, they
10 don't care about what wind or load or any one of
11 those factors is causing in terms of variability.
12 The only thing we care about is the aggregate
13 variability. And what's interesting is that the
14 aggregate variability is much lower than the sum of
15 its parts, of each of those components parts because
16 much of the variability is canceled out. You know,
17 for example, if your aggregate wind output is going
18 up, often that coincides with when your aggregate
19 electricity demand is also going up, and so those
20 would cancel each other out. And this is on the
21 sub-hourly time scale, you know, minutes to minutes
22 where there's essentially zero correlation between
23 wind output and electricity demand. Because there's
24 no correlational, you would get a significant amount
25 of canceling out of particularly, this fast

1 variability so that, you know, the net incremental
2 impact of wind on total variability is very small.

3 **Q. Does MISO use a tool called Dispatch**
4 **Intermittent Resource to manage such variability?**

5 A. It does, yes.

6 **Q. Does the use of that tool lower costs?**

7 A. It does. It brings wind generation into
8 the dispatch and scheduling processes that MISO uses
9 for all generation resources. And importantly, it
10 uses a very fast update of the actual wind
11 generation and uses the economic dispatch of the
12 market to follow the net load, basically, the load
13 minus wind and other, you know, variable resources
14 that must be met. And as a result of that process,
15 the impact of wind on regulation and other ancillary
16 services in MISO is very small. MISO itself has
17 described it as "little to none" for the impact of
18 wind on the need for regulation.

19 MR. ZOBRIST: Thank you.

20 THE WITNESS: Thank you.

21 JUDGE BUSHMANN: Questions by staff?

22 Rockies Express?

23 MS. DURLEY: No questions.

24 JUDGE BUSHMANN: Reicherts and Meyers?

25 MR. DRAG: No questions, your Honor.

1 JUDGE BUSHMANN: Show Me Concerned

2 Landowners?

3 MR. JARRETT: No questions.

4 JUDGE BUSHMANN: Missouri Landowners

5 Alliance.

6 MR. AGATHEN: Just one, I think, Judge.

7 THE WITNESS: Okay. Thank you.

8 QUESTIONS BY MR. AGATHEN:

9 Q. Mr. Goggin, this is Paul Agathen again.

10 A. Okay.

11 Q. Do you recall a question or an answer, I
12 guess, from you that geographic dispersion and wind
13 turbines of a dozen miles or so will give you a
14 smoothing effect or something along that line?

15 A. That was correct, for the fast
16 variability that's correct. For the, you know,
17 minute-to-minute type regulation.

18 Q. Does that necessarily imply that the
19 wind speeds at those different locations must be
20 different?

21 A. It would imply that they're not moving
22 in the same direction within that timeframe that
23 we're discussing. That's how the variability is
24 smoothed out is that you will have changes at, you
25 know, many or all of those, you know, sites of the

1 wind turbines. But the -- they're not all changing
2 in the same direction, so many of those, you know,
3 changes are canceled out.

4 **Q. So the directions can change or the wind**
5 **speeds can change, which would cause that smoothing**
6 **effect?**

7 A. That's correct because they're not
8 changing in a consistent basis or consistent way
9 across that fleet.

10 **Q. Even though they're just several miles**
11 **apart?**

12 A. That's correct. On the minute-to-minute
13 time scale that's correct, yes.

14 MR. AGATHEN: That's all I have, Judge.

15 JUDGE BUSHMANN: Any redirect?

16 MR. REED: Yes. Thank you, Judge. Just
17 a couple of questions.

18 QUESTIONS BY MR. REED:

19 **Q. Mr. Goggin, you can hear me?**

20 A. Yes, I can.

21 **Q. I wanted to redirect with you with**
22 **regard to the capacity factor questions that came**
23 **out during cross-examination.**

24 A. Sure.

25 **Q. In your testimony, you had included some**

1 data from some of the western states, and you had
2 included some capacity factor numbers in there, and
3 then you were also asked about Mr. Barry's use of 55
4 percent capacity factor for Kansas wind. Do you
5 recall?

6 A. Yes, that's correct.

7 Q. Do you find Mr. Barry's use of the
8 55 percent number unreasonable?

9 A. No, I do not. As I mentioned in my
10 earlier testimony here today that, you know, there
11 have been significant improvements in wind turbine
12 technologies, you know, the adoption of low wind
13 speed turbines, which are increasingly being used,
14 extensively being used in relatively high wind
15 resource areas, and this allows a significantly
16 higher capacity factor. We've seen many power
17 purchase agreements, you know, just anecdotally, we,
18 you know, we've heard and seen that they've been
19 based on projections of capacity factors that are in
20 that range, so it is not unreasonable.

21 Q. And what about transmission congestion,
22 which we've also discussed over the last few days.
23 Does that have an effect -- does transmission
24 congestion and curtailment of wind power have an
25 impact on capacity factors?

1 A. Absolutely. And that was something that
2 I noted in my testimony, my written testimony. That
3 the capacity factor numbers for the Kansas wind
4 projects that were reported. Those would include
5 the impact of wind curtailment, which has been
6 somewhat significant, and, you know, as a result,
7 those capacity factors would likely have been
8 several percent higher had there not been
9 curtailment.

10 MR. REED: Thank you.

11 JUDGE BUSHMANN: Okay. Mr. Goggin, that
12 completes your testimony. You may be excused now.

13 THE WITNESS: All right. Thank you,
14 your Honor.

15 JUDGE BUSHMANN: Thank you. I'm going
16 the hang up the phone now.

17 THE WITNESS: Thank you. Bye.

18 JUDGE BUSHMANN: One quick issue I
19 wanted to bring up just before we bring up the next
20 witness. And that is Trade Wind Energy LLC had been
21 excused from the hearing today, but by order of the
22 Commission, their witness, Mr. Costanza's testimony
23 has already been conditionally received into the
24 record, along with an attachment, subject to any
25 objections to admissibility by the Missouri

1 Landowners Alliance. So at this time, I would ask
2 if there are any objections to the rebuttal
3 testimony of Frank Costanza, which is marked as
4 Exhibit 725?

5 MR. AGATHEN: There is, Judge. I want
6 to object to the testimony on the ground that they
7 refused to answer any of the Missouri Landowners
8 Alliance first set of data requests to Trade Wind
9 Energy. And those were the same data requests that
10 the Commission ruled on in its order of
11 September 24th, 2014, that Trade Wind need not
12 answer.

13 JUDGE BUSHMANN: Those were the ones
14 that were subject to the protective order?

15 MR. AGATHEN: They were, Judge.

16 JUDGE BUSHMANN: Okay. Then I will
17 overrule the objection, and Exhibit 725 is received
18 into the record.

19 (TRADE WIND ENERGY EXHIBIT 725 HAS BEEN
20 RECEIVED INTO EVIDENCE.)

21 MR. AGATHEN: And, Judge, that includes
22 the attached schedule?

23 JUDGE BUSHMANN: Yes. Yeah, that would
24 include the attached schedule.

25 MR. AGATHEN: Thank you.

1 JUDGE BUSHMANN: Okay. Mr. Zobrist, I
2 think we're ready for your witness now.

3 MR. ZOBRIST: Thank you, Judge. Grain
4 Belt Express calls Dr. William H. Bailey.

5 (Witness sworn.)

6 JUDGE BUSHMANN: You may be seated.

7 DR. WILLIAM H. BAILEY testified as follows:

8 DIRECT EXAMINATION BY MR. ZOBRIST:

9 Q. Please state your name.

10 A. William H. Bailey.

11 Q. And where are you employed, Dr. Bailey?

12 A. By Exponent Incorporated.

13 Q. And what is your position at Exponent?

14 A. I'm a Principal Scientist in the
15 Exposure Assessment Practice.

16 Q. Okay. And did you prepare surrebuttal
17 testimony in this case that I've marked as Exhibit
18 108?

19 A. Yes, I did.

20 Q. Okay. And are there any corrections to
21 your testimony?

22 A. No.

23 Q. Okay. If I were to ask you these
24 questions, would these be your answers?

25 A. Yes, they would.

1 Q. Okay. And were these answers given
2 under oath?

3 A. Yes.

4 MR. ZOBRIST: Judge, I move the
5 admission of Exhibit 108.

6 JUDGE BUSHMANN: Any objections?

7 Hearing none.

8 That Exhibit will be received into the
9 record.

10 (GRAIN BELT EXPRESS EXHIBIT 108 RECEIVING
11 IN EVIDENCE.)

12 JUDGE BUSHMANN: First party for cross
13 is Wind on the Wires.

14 MR. REED: No cross. Thank you.

15 JUDGE BUSHMANN: Commission staff?

16 MR. WILLIAMS: No questions.

17 JUDGE BUSHMANN: Rockies Express?

18 MS. DURLEY: No questions.

19 JUDGE BUSHMANN: Reicherts and Meyers?

20 MR. DRAG: No questions, your Honor.

21 JUDGE BUSHMANN: Show Me Concerned

22 Landowners?

23 MR. JARRETT: No questions, your Honor.

24 JUDGE BUSHMANN: Missouri Landowners

25 Alliance?

1 COMMISSIONER STOLL: No questions,
2 Judge.

3 JUDGE BUSHMANN: Do any of the
4 commissioners have any questions for the witness?

5 CHAIRMAN KENNEY: No. Thank you.

6 COMMISSIONER HALL: I have none.

7 COMMISSIONER STOLL: I do not.

8 JUDGE BUSHMANN: No questions from the
9 bench. No need for recross. There was no need for
10 redirect.

11 Mr. Bailey, thank you, sir. Your
12 testimony is now completed.

13 THE WITNESS: Thank you.

14 MR. ZOBRIST: You know, I've been
15 waiting for this for a couple of days, Judge.

16 Our next witness then will be Mr. Timothy
17 Gaul.

18 Could we take a short break? I think he
19 went to the restroom. Just five minutes, please.

20 JUDGE BUSHMANN: Why don't we take --
21 well, it's about time for a break anyway. Let's
22 just take a break for 15 minutes.

23 MR. ZOBRIST: Thank you, Judge.

24 JUDGE BUSHMANN: We'll be in recess
25 until 3:15.

1 (Recess was taken.)

2 JUDGE BUSHMANN: I think we're ready for
3 the next Grain Belt witness.

4 MR. ZOBRIST: We call Timothy Gaul.

5 (Witness sworn.)

6 JUDGE BUSHMANN: You may proceed.

7 TIMOTHY GAUL testified as follows:

8 DIRECT EXAMINATION BY MR. ZOBRIST:

9 **Q. Please state your name.**

10 A. Tim Gaul.

11 **Q. And where do you work, Mr. Gaul?**

12 A. Louis Berger.

13 **Q. And what is your position there?**

14 A. I'm the Vice President of Power and
15 Energy.

16 **Q. Did you prepare direct testimony that**
17 **I've marked as Exhibit 104 and surrebuttal testimony**
18 **that I've marked as Exhibit 105?**

19 A. Yes.

20 **Q. Do you have any corrections to either**
21 **your direct or surrebuttal testimonies?**

22 A. No. My title changed a little bit, but,
23 no.

24 **Q. And what's your title today?**

25 A. Vice President.

1 **Q. And if I were to ask you these**
2 **questions, would these be your answers?**

3 A. Yes.

4 **Q. And were they given under oath?**

5 A. Yes.

6 MR. ZOBRIST: Judge, I move the
7 admission of Exhibits 104 and 105.

8 JUDGE BUSHMANN: Any objections?

9 Hearing none.

10 Those will be received into the record.

11 (GRAIN BELT EXPRESS EXHIBITS 104 and 105
12 RECEIVED INTO EVIDENCE.)

13 First cross-examination will be Wind on
14 the Wires.

15 MR. REED: No cross.

16 JUDGE BUSHMANN: Commission staff?

17 MR. WILLIAMS: No questions.

18 JUDGE BUSHMANN: Rockies Express?

19 MS. DURLEY: Yes, Your Honor.

20 CROSS-EXAMINATION BY MS. DURLEY:

21 **Q. Good afternoon, Mr. Gaul. My name is**
22 **Colly Durley. I'm here on behalf of Rockies**
23 **Express. Am I correct in understanding that your**
24 **direct testimony is primarily about route selection?**

25 A. Correct.

1 **Q. Okay. And as you look at the different**
2 **alternative routes, you consider a number of**
3 **factors. Would that be correct?**

4 A. Correct.

5 **Q. And these factors, according to your**
6 **testimony, include such things as the impact on the**
7 **environment, human use, engineering, and**
8 **construction challenges?**

9 A. Correct.

10 **Q. Okay. Let me ask you. Did you consider**
11 **safety as one of your factors?**

12 A. Yes.

13 **Q. And it's not --**

14 A. As it related to construction. We were
15 advised on issues that would be of a safety matter
16 from Clean Line's engineers.

17 **Q. Well, okay. Could you just summarize**
18 **some of the safety issues you considered in making**
19 **your route selections or proposals?**

20 A. Well, first of all, I think, as it
21 relates to routing a transmission line, things like
22 avoiding residences and trying to keep our distances
23 from residence, when possible, is certainly, during
24 construction, a matter of safety. You don't want a
25 lot of residences immediately adjacent in house

1 while during construction. There were safety
2 considerations with certain road crossings. As it
3 related to river crossings, there were discussions
4 on reasonable alignments and making sure that we
5 were not in areas that would be problematic from an
6 existing infrastructure, the presence of existing
7 infrastructure and the like.

8 **Q. All right. How about safety as to the**
9 **pipeline? In particular, we're talking about**
10 **Rockies Express Pipeline.**

11 A. Yeah, I would couch my answer in that as
12 it related to my conversations with Clean Line's
13 engineers and power engineers and their assessment
14 of the suitability of that pipeline for parallel
15 alignments and for crossing, etc. Yes.

16 **Q. All right. So in your testimony,**
17 **inherent in there, is a consideration of the safety**
18 **factors as it relates to underground pipelines, and**
19 **in particular, Rockies Express?**

20 A. Generally, as it relates to the
21 development of the technical guidelines --

22 **Q. All right.**

23 A. -- in the siting study.

24 **Q. And was another factor that you would**
25 **have considered been cost?**

1 A. To some extent. Cost is inherent in the
2 identification of routes that are reasonable in
3 length and design requirements.

4 **Q. Let me ask --**

5 A. But we don't actually do an assessment
6 of costs and compare those costs between
7 alternatives to identify the proposed route.

8 **Q. Okay. So if the transmission line is**
9 **placed close to the Rockies Express Pipeline, you**
10 **understand that certain mitigation measures would be**
11 **necessary?**

12 A. Yes.

13 **Q. Were those cost considered in your route**
14 **selections in any way?**

15 A. No.

16 **Q. All right. Let me ask you then**
17 **specifically about the routes that you looked at.**
18 **You examined -- I think I counted right -- nine**
19 **alternative routes?**

20 A. A through I, yes.

21 **Q. Okay. All right. And in looking at**
22 **each of these alternative routes, did you know the**
23 **location of the pipeline, Rockies Express Pipeline,**
24 **in looking at each of those alternative routes?**

25 A. Yes. Yes.

1 **Q. Okay. You had talked about doing survey**
2 **work, so I wasn't sure whether you were really aware**
3 **of where it was or just the general location?**

4 A. So we can identify the location of the
5 pipeline in aerial photography.

6 **Q. Sure. Sure.**

7 A. But also, we would GPS the pipeline
8 markers at road crossings when we drove past them.

9 **Q. Yeah. So it's not hard to find where**
10 **the pipeline is, I guess, I'm trying to say?**

11 A. No. But on larger parcels, where you're
12 between road crossings, you're interpreting the
13 location of that pipe as it relates to aerial
14 imagery. So between the road crossings, you have to
15 do some interpretation of the aerial imagery.

16 **Q. Would you have looked at the routes for**
17 **the pipelines, not just Rockies Express, all of**
18 **them? Aren't those public records?**

19 A. Of the? I'm sorry?

20 **Q. Of the location of the pipelines, would**
21 **you have looked at public records, surveys, that**
22 **kind of thing to show the exact location of the**
23 **pipeline?**

24 A. Typically, that information is not
25 readily accessible, for specific locations and

1 alignments of the pipelines at a level that would be
2 useful for alignment of identifying. Which we rely
3 on aerial photography and ground based review of
4 pipeline markers.

5 **Q. All right. So when you're relying on**
6 **the aerial photography, you're not able to**
7 **distinguish, I take it, between Keystone, REX, and**
8 **other pipelines that might be in the same general**
9 **vicinity?**

10 A. No, but we can identify them as pipeline
11 markers on the roads. And so we do generally know
12 the order of the pipelines in that right of way, for
13 the most part.

14 **Q. Okay. And tell me, when you looked at**
15 **all these alternative routes, did all of them have**
16 **some parallel or adjacent to Rockies Express?**

17 A. Yes. I believe, I'd have to look at how
18 much we are adjacent to right at the Missouri
19 crossing, and if that's actually immediately
20 adjacent to, yes, I believe.

21 **Q. So all nine had some parallel or**
22 **adjacent?**

23 A. Some limited amount, yeah.

24 **Q. Okay. So let's talk about, as I**
25 **understand you divide it into two segments, Segment**

1 1 and 2, correct?

2 A. Correct.

3 Q. And can you just give me an approximate
4 length of Segment 1?

5 A. I can give you the exact length.

6 Q. Okay. Fair enough.

7 A. Give me just a moment. Segment 1 is
8 33.3 miles.

9 Q. Is Segment 1 30.3 miles regardless of
10 which --

11 A. 33.

12 Q. Excuse me. I'm sorry I said that wrong.
13 Is that regardless of which route you select?

14 A. No, they're slightly different between
15 A, B, and C.

16 Q. All right. So that would be 33.3 for
17 Route B?

18 A. Correct.

19 Q. Okay. When then -- and I'm just a
20 little confused about this, really for my
21 clarification. When the transmission line comes
22 into the state of Missouri, crosses the Missouri
23 River -- and, I think, you were just addressing
24 this -- at the same location where the pipeline
25 comes under the river?

1 A. Reasonably close. We have to be
2 considerate of drainage and some levee issues in
3 that area, but they're not immediately adjacent.

4 **Q. Not immediately adjacent. Do you know**
5 **how far apart they are when they come into Missouri?**
6 **Just approximately.**

7 A. To be honest with you, right offhand,
8 the crossing includes the pipeline is not exactly
9 straight, so I don't know exactly at what point and
10 what distance they are, but I know that the right of
11 ways I don't believe are immediately adjacent.

12 **Q. At Agency, Missouri.**

13 A. Yes.

14 **Q. It's my understanding that, first of**
15 **all, you selected Route B, and that bypasses -- I'm**
16 **sure that's not the technical word -- but that**
17 **bypasses Agency, correct?**

18 A. Correct.

19 **Q. So it diverges from being parallel and**
20 **adjacent to Rockies Express at least in that**
21 **location?**

22 A. Yeah, before that, along a transmission
23 line that heads to the southeast.

24 **Q. All right. And the reason that you**
25 **didn't follow the pipelines in that location is**

1 **what?**

2 A. Well, as you get closer to Agency,
3 you're just south of St. Joe, there's a significant
4 number of homes immediately adjacent to the right of
5 way in that area. The number of residents in that
6 area and ability to have an alignment adjacent to
7 the pipeline through that area was difficult because
8 of the placement of homes immediately adjacent to.

9 **Q. Okay. So you balance, I guess, those**
10 **factors of other impediments, if you want to call**
11 **them that, versus the advantages of following the**
12 **pipeline corridor?**

13 A. Yes.

14 **Q. Okay. And tell me then how many miles**
15 **in Segment 1 you are, Grain Belt is, parallel or**
16 **directly adjacent to Rockies Express?**

17 A. .7.

18 **Q. .7?**

19 A. Mmm-hmm.

20 **Q. So out of the 33 miles, Grain Belt will**
21 **only be parallel to Rockies Express for .7 mile?**

22 A. Correct.

23 **Q. Okay. And tell me for that .7 mile, how**
24 **close you anticipate that the transmission line**
25 **would be to Rockies Express?**

1 A. We attempted to keep it 100 feet, the
2 center line of the transmission, 100 feet from the
3 edge of the right of way of the pipeline corridor.

4 **Q. Okay. So at least for Segment 1, the**
5 **advantages of not being in the corridor outweigh the**
6 **advantages of being in the corridor for most of**
7 **Segment 1?**

8 A. The advantages of not being -- I guess
9 that's a way to say it. I would say the
10 disadvantages of being adjacent to the homes along
11 the pipeline in that area outweigh the benefits of
12 being. I guess, that might be how I'd phrase it.

13 **Q. And that's fine. It's probably better**
14 **that way. But what I wondered if there were more**
15 **advantages in not being in the corridor -- and I'm**
16 **calling it the Rockies Express corridor -- and it's**
17 **only .7. And Rockies Express is concerned about the**
18 **closeness, why not just, at least for that .7, move**
19 **it so that it's not close to Rockies Express?**

20 A. I guess, I'll have two answers to that.

21 **Q. Okay.**

22 A. One as a result of coordination with the
23 Missouri Corps of Engineers, they were very
24 interested in us finding an existing disturbed
25 crossing in the Missouri River. A crossing where

1 there was other infrastructure that we would cross
2 near to. So we looked at several other locations.
3 This was the location that ultimately got selected
4 and the Rockies Express corridor was one of the
5 reasons we were in that location.

6 Beyond that, as you get beyond to
7 Missouri flood plain and move eastward, there is a
8 corridor, as you can imagine, there's a lot of homes
9 along the bluffs just south of St. Joe. And there
10 are a lot of homes that extend along those bluffs
11 and near the Rockies Express corridor there are
12 fewer and there's an existing right of way. So that
13 gets us through the flood plain, up along the
14 bluffs, crossing kind of the ridge of the bluffs.
15 And then as we again, we investigated certainly, the
16 corridor further into the town of Agency, but
17 there's significant development and residential
18 density south of St. Joe that prompted us to follow
19 the transmission line.

20 **Q. All right. So the .7 miles that you've**
21 **identified on the first, Segment 1, is immediately**
22 **along, near the Missouri River, and as you go then**
23 **eastward for .7 miles?**

24 A. Correct.

25 **Q. Okay. All right. Okay. Let me ask you**

1 about Segment 2 then. What's the approximate length
2 of Segment 2?

3 A. Segment 2 is roughly 172.4 miles.

4 Q. Okay. And you may have explained this,
5 and I'm sorry if I missed it. But why do you have
6 this very short Segment 1 and a much longer Segment
7 2? What's your thinking in doing it in those two
8 segments?

9 A. The -- it's actually in part for clarity
10 of discussion in selection of the routes where you
11 have a coincident point in the route network, you
12 can make decisions on four routes or three routes.
13 Pick the best of those routes and then come up with
14 an analysis to address the other six. If you don't,
15 you have to do a combination of each and before you
16 know it, you have a document that's very difficult
17 for the public to read and understand. So it's more
18 of a matter of clarity.

19 Q. All right. I understand. Tell me --
20 well, first of all, you selected alternative Route D
21 for your Segment 2?

22 A. Correct.

23 Q. And tell me approximately how many miles
24 in Segment 2, Route D, parallel or directly adjacent
25 to Rockies Express?

1 A. 44.6. And directly adjacent to is,
2 exactly, is a little bit difficult to address. I
3 will say a couple of points on that.

4 One, we try to align the existing
5 transmission line as I mentioned before, about, not
6 about, but 100 feet from the edge of the Rockies
7 Express corridor. There are diversions because
8 pipelines follow topography and they tend to curve.
9 So in reality, we're only about 10, roughly 10 miles
10 immediately adjacent right of way to right of way,
11 based on our calculations of aerial imagery, which
12 will need to be verified with survey. We're within
13 about 100 to 200 feet center line separation from
14 the edge of the, and we keep calling it the Rockies
15 Express corridor, but we both know there's three
16 pipes in there.

17 And, in fact, just as a side note, the
18 Rockies Express Pipeline, based on those markers is
19 never the closest one to our alignment. So it's
20 always in the middle or on the far end. So just
21 something to note.

22 **Q. Okay.**

23 A. So we're actually further probably then
24 even when we're immediately adjacent on the right of
25 way through that amount of space. So about roughly,

1 I think, it's roughly 28 miles, between 100 and
2 200 feet, and then beyond 300 is the remainder of
3 the 44.6.

4 Q. Okay. And I appreciate that
5 explanation. When you say immediately adjacent,
6 just the 10 miles, really we're talking about that
7 might would be considered parallel?

8 A. I think we consider it parallel roughly
9 the whole 44.6-miles because you'll have, like I
10 said, the pipeline corridor will follow topography.
11 And in those places where it's curving a lot, we
12 would end up putting many more structures on the
13 landscape than are necessary. So sometimes we'll
14 have a more straight line while the pipeline kind of
15 diverges, moves around a little bit.

16 Q. All right. So the closest point on
17 those 44.6 miles would be 100 feet from some
18 pipeline?

19 A. From the edge of the right of way.

20 Q. From the edge of the right of way?

21 A. And the pipeline is usually in that
22 right of way distance.

23 Q. Sure. Do you know what the distances
24 are of the right of ways are for each of the
25 pipelines in the corridor?

1 A. Not exactly. I mean, they're not
2 exactly to be honest with you.

3 **Q. All right. Then tell me what --**

4 A. We do know roughly where the pipes,
5 yeah. Not exactly, better answer.

6 **Q. And that can be determined, I know that.**
7 **But tell me, generally speaking then, what would be**
8 **the farthest point that you are away from any of the**
9 **right of way areas, the edge of the right of way for**
10 **these pipelines in those 44.6 miles?**

11 A. Can you restate the question? I'm not
12 sure I quite understand it.

13 **Q. What I'm trying to get at is that the**
14 **closest point in these 44.6 miles that you state you**
15 **would be from the edge of the right of way is**
16 **100 feet?**

17 A. Where we are parallel. Obviously, where
18 we're crossing, we're crossing.

19 **Q. Okay. We'll get to the crossing.**

20 A. Yeah.

21 **Q. All right. What I'm asking in where**
22 **you're roughly parallel or adjacent or you're going**
23 **along side, what is the farthest you are away and**
24 **still consider yourself to be in the corridor?**

25 A. Just over 300 feet, I think.

1 Q. Okay.

2 A. Yeah, just over 300 feet.

3 Q. So do the advantages that you recognize
4 in being in the corridor exist if it's only 100 feet
5 or if it's as wide as 300 feet?

6 A. Yes. So let me qualify that. So when
7 we are at the 100 feet, typically through a forested
8 area, because that's an area where we can fragment
9 forest and habitat. If we're out in a grassland
10 area that's typically where we would not follow the
11 alignment of the pipeline as tightly because the
12 fragmentation effect is not as notable. And then,
13 of course, there are many different types of
14 fragmentation effects. But in this case, any of
15 that habitat, forested habitat, was a concern for
16 us.

17 Q. How many of that 44.6 miles is forested,
18 approximately?

19 A. I have it in acres.

20 Q. Okay.

21 A. I do know that it's 759 of that. So out
22 of -- yeah, I have 759 acres, roughly of, looks like
23 2000 acres, so a little less than half. I'm not
24 exactly sure. I could calculate it out.

25 Q. That's close enough.

1 A. But there'll be a lull spot in the
2 record.

3 **Q. It's 759 acres that is forested that**
4 **you're concerned about and you're tightening up and**
5 **being closer to the corridor, I'll call it the**
6 **corridor for the pipelines?**

7 A. Correct.

8 **Q. You will, I assume have to remove some**
9 **trees in building the transmission line even if you**
10 **are closer in to the existing corridor?**

11 A. Correct.

12 **Q. And the habitat that is allowed on**
13 **pipeline easement area is different than the habitat**
14 **allowed on a transmission line area; is that**
15 **correct?**

16 A. No. But I guess, I'm not sure what your
17 question is. The habitat area allowed on the
18 pipeline is different than what's allowed on the --

19 **Q. Well, there's certain --**

20 A. Neither the pipeline nor the
21 transmission line can have trees. So the habitat, I
22 would argue is similar.

23 **Q. All right. So neither one can have**
24 **trees. That's your understanding?**

25 A. Yes. Yes.

1 **Q. Are there any other differences in the**
2 **habitat between pipelines and transmission lines?**

3 A. No, not --

4 **Q. So it's going to be the same --**

5 A. Outside the transmission line habitat
6 has a vertical component to it.

7 **Q. Same limitations for the transmission**
8 **line as exists for the pipeline. Is that what I'm**
9 **hearing you saying? I'm not disagree. I'm asking.**

10 A. Yeah, I'm not entirely sure what you
11 mean by limitations. Yes, neither of them can have
12 tall, growing, wooded vegetation.

13 **Q. Well, you understand in an easement**
14 **that's going to be offered or given or entered into**
15 **with landowners, there's going to be certain**
16 **restrictions on what they can do with the easement**
17 **area, and certain things that they're free to do**
18 **with the easement area. You understand that?**

19 A. Correct.

20 **Q. That's what I mean by limitations. So**
21 **will they be identical?**

22 A. I don't know that. I'm not aware of
23 whether there would be additional restrictions on
24 the pipeline.

25 **Q. Additional restrictions on the pipeline?**

1 A. Or different restrictions. I'm not sure
2 of the difference is between -- I don't know what
3 the contents of the right of way agreements are for
4 the pipelines.

5 **Q. Okay. And in terms of the crossings.**
6 **You said, that there are obviously more crossings.**
7 **One disadvantage to the Route B and Route D that you**
8 **selected is it has the greatest number of pipeline**
9 **crossings, correct?**

10 A. Correct.

11 **Q. And can you tell us for the Segment 1**
12 **how many crossings that you're contemplating?**

13 A. 6.

14 **Q. Okay. And for Route D, the number?**

15 A. 21.

16 **Q. And can you tell us why that is**
17 **considered a disadvantage to have the pipeline**
18 **crossings?**

19 A. It's just a -- it's an additional level
20 of coordination and communication you have to have
21 with the pipeline company. There is a typical
22 agreement that is developed --

23 **Q. Okay.**

24 A. -- for those crossings during the design
25 and construction phase.

1 Q. And you're not at that stage yet, I take
2 it?

3 A. No.

4 Q. No consultation with REX or the other
5 pipelines about the route selection; is that
6 correct?

7 A. I wasn't involved in any, but I know
8 Clean Line had attempted communication. I don't
9 know what their communications were.

10 Q. Well, I guess when you were looking at
11 the different alternative routes and making your
12 best guess as to which would be the best one, in
13 your opinion at least, you did not have any input
14 from the pipelines including Rockies Express, as to
15 problems or issues they might have of having the
16 transmission line run parallel or adjacent to them?

17 A. We did not.

18 Q. Okay.

19 A. Or I did not. I don't know about Clean
20 Line.

21 Q. And I'm just asking for you.

22 In your surrebuttal, you address a few
23 issues. And one of them is the fact that it's
24 common for pipelines to parallel transmission lines.
25 Do you remember that?

1 A. Right.

2 Q. Okay. And then you identify two
3 particular projects that you had some familiarity
4 with. Do you remember that discussion?

5 A. Yes.

6 Q. That's on page 3 if you need to look at
7 it.

8 A. Yes.

9 Q. The first one you identify is the
10 Jackson Ferry-Wythe line, which is a 138kV line. Do
11 you remember that?

12 A. Yes.

13 Q. That is significantly different in size.
14 What we're talking about here is a 600kV --

15 A. Correct.

16 Q. -- direct current line? Okay. And then
17 the second one you mention is the PSEG's Susquehanna
18 Roseland, I think I said that right, 500kV line?

19 A. Yes.

20 Q. Okay. Now, tell me in that, which would
21 be more comparable, is that a direct current line?

22 A. No, it is not.

23 Q. Okay. And also tell me, does it
24 parallel a 42-inch pipeline or is it adjacent to a
25 42-inch natural gas pipeline?

1 A. Not a 42-inch pipeline.

2 Q. When you were making any of your
3 decisions as to the routing and using the corridor,
4 did you consider the size of Rockies Express natural
5 gas pipeline?

6 A. Again, that would be in the judgments of
7 Clean Line Energy Power engineers, Wayne Galli, they
8 are the ones that advised us what the technical
9 guidelines would be for the alignment.

10 Q. So in terms of the route itself when
11 you're selecting it, I guess what I'm trying to
12 understand is part of your thinking that this is a
13 42-inch high pressure natural gas pipeline. Do you
14 think about this or are you looking at those other
15 factors that we talked about, such as environmental
16 impact and human use and those kinds of things?

17 A. Yeah. Let me answer -- I guess that's
18 two questions. One, yes, I am looking at
19 environmental impact, human use, and the like.

20 Q. Sure.

21 A. But we rely on the engineers and their
22 judgments in the technical guidelines to determine
23 what the offset is, and what they're comfortable
24 with. And they did, you know, we did get a review
25 of that from them.

1 Q. And who did that review?

2 A. That was, I know, Dr. Galli and Power
3 Engineers, yeah, and, you know.

4 Q. All right. So in terms of your
5 testimony that you submitted in this case regarding
6 the routes, you do not address any of, what I will
7 call, safety, integrity, operational concerns,
8 specific to the 42-inch natural gas pipeline that
9 Rockies has. In selecting the route, you selected
10 for all the other factors, but other than what your
11 engineer said, you did not consider the fact that
12 your next door to the 42-inch natural gas pipeline?

13 A. We considered it as it would relate to
14 construction, access road use, and the like. But
15 not specifically, safety. The safety decision was
16 from the engineers.

17 MS. DURLEY: Okay. All right. I think
18 that's all the questions I have. Thank you.

19 JUDGE BUSHMANN: Reicherts and Meyers?

20 MR. DRAG: Yes, we have some questions,
21 your Honor.

22 CROSS-EXAMINATION BY MR. DRAG:

23 Q. Good afternoon, Mr. Gaul.

24 A. Good afternoon.

25 Q. My name is Gary Drag and I represent

1 **Matthew and Christina Reichert and Randall and**
2 **Roseanne Meyer. My first question -- well, first**
3 **off, I apologize.**

4 JUDGE BUSHMANN: Mr. Drag, can you use
5 your microphone please? It's hard to hear.

6 MR. DRAG: Okay. I thought it was close
7 enough.

8 Q. I apologize, I will be jumping around a
9 little bit, but I do try to follow your direct
10 testimony as much as possible. But my first
11 question relates to your surrebuttal testimony, page
12 3, lines 1 through 4. And in it, you talk about
13 that increased separation, there is likely to be
14 fewer existing access roads that could also be used.

15 Can you explain why fewer of the
16 existing roads could be used?

17 A. Fewer of the existing access roads.

18 Q. Right.

19 A. So I think it's important that I note
20 the definition of an access road. Our jargon in
21 that is a road that is constructed for the purpose
22 of construction or the maintenance of the line. It
23 is not a public road. It is a small, typically,
24 either along the right of way on the right of way or
25 sometimes an off right of way access road. And

1 those roads are typically as close to the right of
2 way as they can be, so that you're not disturbing
3 other areas further away from the transmission or
4 from the right of way.

5 So as you increase the distance between
6 those two rights of way, in this case, the pipeline
7 corridor and the transmission corridor, those small
8 access road that are providing access to the
9 pipeline are not going to be useful for accessing
10 the transmission corridor that's now pushed farther
11 away.

12 Q. Okay. I wanted to verify that. That
13 was my understanding, but I wanted clarification.

14 Now, in terms of the access roads for
15 the pipelines, do you enter into agreements to use
16 those?

17 A. Yes.

18 Q. Okay. Do you enter into the agreement
19 with the landowner or the pipeline company?

20 A. It would typically be an agreement with
21 the landowner.

22 Q. Okay. In your report, you combine
23 section and parcel boundaries. You know, you'll go
24 section/parcel boundaries?

25 A. Correct.

1 **Q. Define your understanding of what a**
2 **section boundary is please.**

3 A. Sections of the PLS, Public Land Survey
4 system develop the West and Midwest into sectioned
5 township and ranges. And those are, they were
6 divided as part of early divisions of land. And
7 then there were subdivisions that are really the
8 parcel boundaries within those early divisions of
9 land section/parcel in PLS system.

10 **Q. Thank you. Now, is it your**
11 **understanding that the section boundaries align with**
12 **roads?**

13 A. Yes.

14 **Q. Okay. Now, in your evaluation, did you**
15 **consider the possibility of common ownership of**
16 **parcels, of adjacent parcels?**

17 A. We did to some degree.

18 **Q. Can you explain what you mean by some**
19 **degree?**

20 A. Well, I guess we did. We looked at --
21 there's a lot of larger parcels that are owned by
22 the same person or multiple parcels in the area that
23 are owned by the same person. Oftentimes, even when
24 owned by that same person, they'll have a tree row
25 or something physical along a subdivision of the

1 parcel that even though it's the same landownership,
2 we might consider that as an opportunity to route
3 the transmission line adjacent to even though it's
4 owned by the same landowner on both sides.

5 **Q. But in the event that a farmer is**
6 **farming two parcels together and you're aligning the**
7 **transmission lines along the parcel boundary, would**
8 **that be an impediment in their farming operations?**

9 A. It can. First of all, two things to say
10 about that. One is, you know, the impediment is on
11 the order of I think 500 square feet if you include
12 the teardrop that they would have to farm around, so
13 it's pretty small. However, many of the parcels
14 that we would cross are also structured placement
15 could allow for very few structures to be across
16 that field. In some cases, with a span of 1200 to
17 even 1600 feet, we could actually prevent a
18 structure from being too much of an impediment or
19 even an impediment in those fields.

20 **Q. Okay. Thank you.**

21 **Can you please turn to your direct**
22 **testimony page 4, lines 11 through 13?**

23 A. 11 through 13?

24 **Q. Yes. Please.**

25 A. It looks like it's the end of one

1 question and the start of --

2 **Q. Okay. You say, examples of opportunity**
3 **features in Missouri include an array of existing**
4 **linear features --**

5 A. I'm sorry. I apologize. Did you say
6 the direct testimony?

7 **Q. Yes.**

8 A. Oh, okay. I'm sorry. I was still
9 looking at the surrebuttal.

10 **Q. Oh, okay.**

11 A. And again that was page 4?

12 **Q. Lines 11 through 13.**

13 A. Okay. Yes.

14 **Q. Okay. How did you determine -- the**
15 **section boundaries, of course, would be generally by**
16 **roads, but how did you determine the parcel units?**

17 A. We used parcel data from the counties.

18 **Q. Okay. Are you referring to plat maps**
19 **or?**

20 A. No, we -- in some counties, we had to
21 use plat maps. For the majority of the counties, we
22 were actually able to get digital GIS data files of
23 the parcel boundaries from the counties.

24 **Q. Okay. Now, in that section, you list**
25 **several opportunities. You do not list railroads**

1 **and highways, why not?**

2 A. A couple of reasons. First of all, we
3 did consider railroads and highways. Frankly, that
4 is a little bit -- frankly, it's missing on this
5 sentence. But what you find with highways, first of
6 all, we did try to parallel as an example U.S.
7 Highway 36. And what you find with those highways
8 is that first of all, you have significant
9 development along those or adjacent to those that
10 preclude you from being along those highways.

11 And when you talk about roads, people
12 live on roads. So oftentimes, you find yourself
13 diverting from the road enough times that the value
14 of paralleling that road becomes limited. In fact,
15 oftentimes, in a section and parcel arrangement that
16 half section line where there are no roads becomes a
17 better opportunity than the road itself because the
18 houses are on the roads.

19 **Q. Okay.**

20 A. And let me finish with railroads. A lot
21 of the rail lines in these areas are old. And as a
22 result, you have a town ever 10, 11 miles because
23 they were steam based and they had to pick up water.
24 So as you parallel that rail line, you end up,
25 again, diverting around for the town or the

1 community coming back to the rail line, in a pretty
2 regular and common diversion, and that's not, at
3 some point it becomes not a functional or valuable
4 parallel.

5 **Q. Now, you mentioned about detouring**
6 **around populated areas. Why do you do that?**

7 A. Obviously, one of our important
8 guidelines is to avoid being close to homes. And if
9 you want to avoid being close to homes, you're
10 certainly going to avoid being close to large
11 numbers of them.

12 **Q. Now, why do you avoid being close to**
13 **homes?**

14 A. It's just a general principle and
15 guideline that we know the public is interested in.
16 They want to make sure we stay away from their
17 homes, to the extent possible within reason of all
18 the other constraints and opportunities we consider.

19 **Q. Is it a -- why does the public want to**
20 **keep the lines away from their homes? What's the**
21 **perception?**

22 A. They don't want to see them. It's
23 typically a visible thing.

24 **Q. Okay. Is it a perception that their**
25 **property values will decrease to the extent you**

1 know?

2 A. There is certainly a perception that
3 property values will decrease.

4 Q. From your own personal knowledge, do you
5 know whether or not property values decrease?

6 A. From my own personal knowledge, no. I
7 mean, it's really not my area of expertise.

8 Q. Okay. Have you read anything about the
9 impact of transmission lines along property?

10 A. I have.

11 Q. And what's been the --

12 A. The general consensus is it's a minor
13 effect for kind of a short term period.

14 Q. Okay.

15 A. But I can't really go into detail more
16 than that. I mean to be honest, from a siting
17 perspective, we don't consider land values.

18 Q. Okay. So from a purely financial
19 standpoint or economic standpoint, running it along,
20 near homes, is no different than running it in the
21 country. I mean, if you're assuming that there's
22 minimal impact on the transmission line,
23 transmission line, not property values?

24 A. I actually don't understand your
25 question. Can you rephrase that?

1 Q. Yes. Gladly. I got tongue tied.

2 So if you're under the assumption that
3 transmission lines have minimal impact on property
4 values, then running the line near homes, as
5 compared to a rural homestead or along farm land,
6 there shouldn't be any difference in priority from a
7 purely economic standpoint?

8 A. I think the best way I can answer that
9 is, we don't consider the land value as part of the
10 siting process.

11 Q. Okay.

12 A. And I don't know if I can answer your
13 question.

14 Q. Well, you did. That's good.

15 A. Yeah.

16 Q. But why don't you consider land values
17 as part of the siting process when you do consider
18 public perception as part of it?

19 A. I think public perception is inherent
20 within one of our stated goals to maximize or
21 maximize the distance from homes when practical and
22 possible with respect to all the other factors. I
23 don't know as though I link it to the financial, the
24 economics of it. I'm sorry.

25 Q. No, that's fine.

1 A. I don't necessarily understand the
2 linkage you're asking me to recognize.

3 **Q. Well, I'm asking because from a**
4 **layperson's perspective, economic value should be a**
5 **function of your siting process, just as much as**
6 **public perception is. And that's why I was asking,**
7 **you know, why you excluded one part of that and if**
8 **you consider the economic impact zero, then that**
9 **makes sense why you exclude it.**

10 A. I'm not sure if there was a question
11 there?

12 **Q. No, it wasn't.**

13 A. Okay.

14 **Q. I'm sorry. You asked me -- never mind.**

15 **Now, if you turn to your direct**
16 **testimony, page 5, lines 5 through 8, please.**

17 A. Lines 5 through.

18 **Q. 8.**

19 A. Okay.

20 **Q. Why did -- now, you first went and**
21 **developed a route in Kansas according to this?**

22 A. Yeah, we developed potential routes
23 first in Kansas.

24 **Q. Okay. Well, you say here, once the**
25 **proposed route was selected in Kansas, potential**

1 routes in Missouri were further refined based on the
2 known location with the Missouri River crossing?

3 A. Correct.

4 Q. Why didn't you simply do a global site
5 plan across the four states that would basically
6 optimize or minimize the impacts based on whatever
7 multi-variant conditions you established?

8 A. We did. So Chapter 1 through 4 of the
9 document of the siting study are the evaluation of
10 conceptual routes, which include, which actually
11 is specifically designed to do what you said, and
12 that's to look at multiple full routing
13 opportunities and constraints across the entire four
14 state length.

15 Q. Okay.

16 A. Develop those concepts, evaluate those
17 different concepts, and then we eventually settled
18 on the northern corridor to develop potential routes
19 that were more specific alignments, bring them to
20 the public, etcetera, and then move forward. So the
21 four state decision was made through the conceptual
22 route development, analysis, and valuation process.

23 Q. But according to this, you went and
24 pinned, to use a lay term, you, basically, pinned
25 one end where it came in from Kansas and developed

1 **the Missouri routes from there?**

2 A. Yes. I would also say that we did
3 actually develop some routes into Missouri as a
4 result of the analysis of the Missouri River
5 crossing.

6 **Q. Okay.**

7 A. In fact, we had a public meeting in
8 Missouri to gather information of that crossing
9 before we even made the Kansas City -- I'm sorry,
10 the Kansas decision because we recognized that the
11 land use on the immediate bank in Missouri would be
12 important for the decision of that river crossing.

13 **Q. Okay. Thank you.**

14 **Excuse me I am trying to use PDF page**
15 **numbers.**

16 A. Understandable. I have the same
17 problem.

18 **Q. Okay. If you would turn to your direct**
19 **testimony, page 8, lines 11 through 13. Okay. In**
20 **that you say, in that last sentence there,**
21 **alternative routes for each segment were compared**
22 **against one another, and the most reasonable route**
23 **from each segment were selected for a compilation of**
24 **the proposed route.**

25 **In your direct testimony, you have**

1 talked about the individual criteria that you used,
2 proximity to homes, parallel to existing right of
3 ways, those things.

4 Did you go and assign weighting values
5 to those criteria?

6 A. We did not assign numeric weighting
7 values, no.

8 Q. So how did you go then and determine
9 that a 250-foot space from a home was less or more
10 important than paralleling a pipeline?

11 A. So we develop the metrics and present
12 them as their data, as they're raw numbers, and
13 they're raw accounts, and provide a discussion of
14 our decisions and assessments within the document
15 and relate the pros and cons of those variables for
16 the selection of the proposed route.

17 Q. Okay. So you did not do a multi-variant
18 or matrix analysis, which would optimize the route
19 based on assigning values to the criteria?

20 A. Correct.

21 Q. So, in essence, the process was, I would
22 say, in my view, totally subjective?

23 A. I couldn't disagree more.

24 Q. Okay. So it is possible the importance
25 of having homes near, having the route near a

1 pipeline in one segment would be evaluated more
2 important than the proximity of homes in another
3 segment?

4 A. It can. The routing process is -- there
5 are multiple routing processes. There are those
6 that use a process where they calculate the numbers,
7 they assign weights, they assign rankings, they
8 assign weights, and they score all the numbers. And
9 the route that comes up with the lowest score,
10 typically, the five routes that come up with the
11 lowest score, they then use professional judgment to
12 come up with a proposed route. There are
13 methodologies that use modeling and GIS to come up
14 with the proposed routes and corridors. And then
15 there are methodologies that use the pros and cons
16 in interdisciplinary team of scientists,
17 archeologists, land management specialists, etcetera
18 to develop a series of both metrics that are in raw
19 form and also to provide a discussion and rationale
20 for the pros and cons of the different routes for
21 the selection of the routes.

22 In my experience, our company has done
23 100 transmission studies. We've used several of
24 these. This is the one we're using -- this is the
25 methodology we're using for this siting study. This

1 is the siting methodology my company typically uses,
2 and it's very common in the industry, throughout the
3 industry.

4 Q. Okay. But -- and by using this
5 subjective approach, and I misstated a little bit
6 off on my question was that the priority given to
7 running pipeline in one segment may be less than the
8 priority running a pipeline in another segment?

9 A. Can you restate the question?

10 Q. You have -- let's say you have one of
11 the criteria is running an existing transmission
12 corridor, so in one segment, Segment A that priority
13 for that can be ranked higher or different than the
14 priority of running next to the corridor in Segment
15 C, based on the subjectivity of your process. Is
16 that a fair statement?

17 A. I'm not sure I understand -- agree with
18 your terminology.

19 Q. Okay.

20 A. We would evaluate the parallel
21 alignments differently depending on the number of
22 houses, the number of diversions, based on our
23 understanding of planning transmission lines, based
24 on all the other factors that we present in the
25 siting study are presented in the siting study and

1 description.

2 **Q. Okay.**

3 A. So it is combination of our qualitative
4 assessments, I guess I'm not sure I agree with
5 subjective, but our qualitative assessments on the
6 information that's presented. We collect a
7 tremendous amount of information through this
8 process. Thousands and thousands of homes and
9 wetlands and threatened and endangers species. All
10 those things come into play and spend a considerable
11 amount of time going over that to first of all,
12 refine the routes. We spend a lot of time just
13 refining the routes. So there's a lot of changes in
14 the process to develop the routes based on the
15 planning guidelines, the technical guidelines. Then
16 we evaluate those as we get closer and closer to
17 alignments that we feel are reasonable that are
18 constructible, and we've vetted through that
19 process. And then as we get down to a refined set
20 of those alignments, we assemble them and do a
21 comparison. So I'm not sure if I consider that
22 subjective.

23 **Q. Okay. But that's good. Thank you.**

24 **If you will now turn to page 11, lines 6**
25 **through 9 of your direct testimony.**

1 A. Yes.

2 Q. When developing -- okay. The way I
3 understood your direct testimony was that you
4 developed conceptual routes and potential routes,
5 alternative, and then a proposed?

6 A. Correct.

7 Q. Okay. In 6 through 11, you talk about
8 the -- you say, during the comparison and
9 alternative routes, the number of electric lines,
10 pipeline, railroads, were compared across the
11 alternate routes. Were railroads and highways
12 considered prior to those before the alternate
13 routes stage?

14 A. Yes, in the development of the
15 alignments.

16 Q. Okay. So highways and railroads would
17 have been considered as potential corridors in the
18 potential or conceptual stage?

19 A. Yes.

20 Q. Okay. Thank you. If you can now turn
21 to schedule TBC 2, page 14.

22 A. TBG 2 is the?

23 Q. The route selection study.

24 A. Okay.

25 MR. ZOBRIST: If you could use the pages

1 on the bottom that would help me. If you would
2 please.

3 MR. DRAG: Let me.

4 MR. ZOBRIST: It's usually 4-14 or 2-3.

5 MR. DRAG: Oh, okay. Not a problem.

6 MR. ZOBRIST: Thank you.

7 **Q. I figured that using page 14 of 265**
8 **would have been easier.**

9 A. So what page is that?

10 **Q. It would be -- I'll give you both. It**
11 **is xii or page 14 of 265.**

12 MR. ZOBRIST: Thank you.

13 A. Thank you.

14 **Q. In that page, you make a statement about**
15 **unreasonable routes, unreasonable routes and**
16 **unreasonable costs.**

17 **Can you tell me what you mean by**
18 **unreasonable routes?**

19 A. So it's actually unreasonable and
20 sequiturs. One of the guidelines we have is to make
21 sure we develop a route that is not, does not have
22 unreasonable design requirements. And also, does
23 not circumnavigate the global to get to the end, so
24 there's not -- and typically, that's, you know, five
25 90 degree angles in a 400-foot space. So the ideas

1 not to have a sequiturs route. The straighter the
2 route, the less impact, because the shorter it will
3 be.

4 **Q. Okay. And what do you mean by**
5 **unreasonable costs?**

6 A. Those are inherent in the design
7 standards and the technical guidelines were given
8 through the engineering team.

9 **Q. Were you given a budget for developing,**
10 **I mean, in terms of a cost budget for the --**

11 A. No. I'm sorry. I'll let you finish
12 your question. I apologize.

13 **Q. So were you given by Grain Belt either a**
14 **target budget for the construction costs of the line**
15 **or a range of costs for the line?**

16 A. No.

17 **Q. Okay.**

18 A. Unreasonable cost in this situation is
19 related to the unreasonable design requirements or
20 the sequiturs route that would result in
21 unreasonable cost.

22 **Q. But if you're not working within a**
23 **budget, how can a cost be unreasonable? I guess is**
24 **my question.**

25 A. I think it's a relative statement.

1 Again, the unreasonable cost is tied to the
2 unreasonable design requirements or the sequiturs
3 routes or, yeah, I think that's the best way to
4 describe it.

5 **Q. What do you mean by an unreasonable**
6 **design requirement?**

7 A. I'm trying to think of a good example.
8 Well, actually, I think I just said it. For
9 example, putting in four 90-degree angles in a half
10 a mile to avoid to avoid something would be not a
11 choice we would normally do. Or six 90-degree
12 angles, you know, in a short space. And the intent
13 there is that's adding significantly to design, to
14 cost, just by length and just by inclusion of those
15 heavier angles.

16 **Q. Okay. If you can now turn to in your**
17 **schedule TGB 2, page 2-6 or page 28 of 265.**

18 A. You don't have to worry about the 28 of
19 265, I just have the 2-6. Go ahead.

20 **Q. At the very -- in the bottom, you talk**
21 **about route reconnaissance?**

22 A. Yes.

23 **Q. And you say these features were then**
24 **verified and added to the GIS database.**

25 **What do you mean by verified?**

1 A. We would identify features in aerial
2 photography and then verify their condition on the
3 ground.

4 **Q. Okay. How would you verify the**
5 **condition on the ground?**

6 A. We do field reconnaissance, laptop, I
7 think, it's actually written there, field teams that
8 are out in the car doing surveys from public roads,
9 digitizing location of houses, verifying on the
10 ground conditions.

11 **Q. You're recording residences in your GIS**
12 **database?**

13 A. Correct.

14 **Q. And if you're verifying those**
15 **residences, what do you do if you determine that the**
16 **residences are abandoned? Do you leave them in**
17 **there?**

18 A. No. And we're very careful about
19 determining if a house is abandoned. It really has
20 to be dilapidated to be abandoned. Because my
21 experience has been, in working in many places
22 across the country, that you can find a house that
23 you would consider abandoned and is not lived in.
24 So typically, the roof is falling in, etcetera, and
25 if that's happening, we will remove it from the

1 database.

2 **Q. Okay.**

3 A. Let me rephrase that. We'll actually in
4 the database keep it, we'll give it a different
5 nomenclature, and it wouldn't be considered in the
6 house count, for example, within in the distance.

7 **Q. Okay. We may need to discuss that.**

8 **Because, yeah, we may go down that route. Because**
9 **as part of our data request, you provided GIS data**
10 **and for Sheridan County and Carroll County, and**
11 **within the Reichert's area, there are a number of**
12 **abandoned homes that were still left in your GIS**
13 **database. Like your old farm homestead.**

14 A. So that would suggest that we actually
15 considered more houses within the distance of the
16 line than we should have?

17 **Q. Yes.**

18 A. And they are abandoned as -- I'm sorry.
19 I'm asking you questions. I apologize.

20 **Q. No, that's -- yes, there were more**
21 **houses. In the case of the situation with the**
22 **Reicherts --**

23 JUDGE BUSHMANN: Excuse me, gentlemen.
24 This is turning into a discussion. Can we have a
25 question and answer please?

1 MR. DRAG: Okay. I'm sorry, Your Honor.

2 Q. To what extent did you drive all the
3 roads along the route to verify?

4 A. Every road along the route was surveyed.

5 Q. Okay. What would happen if there was a
6 building that was abandoned, but not on a road that
7 you could not see?

8 A. We would have to interpret that from
9 aerial imagery. But we also did fly the route with
10 a helicopter. In fact, we did identify several
11 abandoned homes using the helicopter as well.

12 Q. Okay. Now, if you were leaving
13 abandoned homes in your database, would that skew
14 your results in the terms of your analysis?

15 A. I'm not entirely sure. It would depend
16 on where those abandon homes are.

17 Q. I know. But do you say it is possible
18 to skew your result?

19 A. It could.

20 Q. Thank you.

21 A. But I would, again, rely on the
22 definition of an abandoned house.

23 Q. I understand. Okay.

24 If you would now turn to the next page
25 please. And you reference as routing constraints

1 federal and state lands?

2 A. Yes.

3 Q. Okay. We're going to -- now, if you
4 would then go ahead and skip to, and this is
5 attachment to schedule TBG-2, it is page 199, there
6 is no other page number on there, it just says,
7 comment. At the top of the page, it will say
8 comments of the Louis Berger Group for Grain Belt
9 Transmission Projects.

10 A. From whom?

11 Q. It's page 199.

12 A. Yeah, I don't have that. Who's the
13 letter from?

14 Q. It's a -- what it is, is it's a summary
15 that says, comments for Louis Berger Group for the
16 Grain Belt Transmission Line. If you wait a minute,
17 I can -- I can bring it up for you here.

18 A. Is it under Federal and State Agency
19 Coordination in the appendix?

20 Q. It is in the appendix.

21 MR. ZOBRIST: I think this is the
22 Mississippi River Potential Crossing, isn't it?

23 MR. DRAG: I'd have to page up.

24 Mr. Zobrist, I have it right here.

25 MR. ZOBRIST: It looks like this.

1 THE WITNESS: Okay. This one.

2 MR. ZOBRIST: Yeah.

3 THE WITNESS: It's the page before?

4 MR. ZOBRIST: Yeah, there you go.

5 Q. So under general comments, the very
6 first line says: USC policy requires mitigation for
7 the loss of public lands.

8 And can you tell me what that mitigation
9 requires?

10 A. I believe it would require -- well, I
11 think it's up for their determination, but sometimes
12 it's land and kind.

13 Q. Okay.

14 A. So you'd have to -- it could be a
15 mitigation for impact or I'm not really sure.

16 Q. Now, if you can continue forward to page
17 212.

18 A. Is that the next page?

19 Q. It would be about -- it would be about,
20 13 pages further in.

21 MR. ZOBRIST: It appears to be an e-mail
22 from a Joseph Lundh, L-U-N-D-H.

23 A. Okay.

24 Q. Now, in that e-mail, the second from
25 last line of the first paragraph, it says, timber

1 **rights are maintained by the corps on their lands,**
2 **and clearing would require compensation/mitigation.**

3 **Do you see that?**

4 A. Yes.

5 **Q. Okay. What does the corps require in**
6 **terms for forests?**

7 A. I don't know offhand. It could be
8 monetary, it could be planting trees somewhere else
9 on their land, or I'm actually not sure.

10 **Q. Okay.**

11 A. But it's just the statement that they
12 would have some type of a mitigation requirement.

13 **Q. Okay. But is it your understanding, in**
14 **general, not specific, to this e-mail that**
15 **mitigation of clearing would involve replanting.**

16 A. It may not be replanting. It might
17 be -- I actually don't know. We didn't get into
18 those conversations.

19 **Q. Okay.**

20 A. I believe that this is just a statement
21 that there would be mitigation requirements and
22 those would be negotiated later.

23 **Q. Okay. I'm going to ask you policy**
24 **question or theoretical question.**

25 A. Okay.

1 Q. If the federal government, the Army
2 Corps of Engineers, requires mitigation of timber
3 loss on their lands, wouldn't it be fair to mitigate
4 the loss of timber on private landowner lands?

5 A. I would suggest that the payment for the
6 easement includes that mitigation.

7 Q. Okay. So you don't think it would be
8 necessary to go and plant, do a one for one in terms
9 of the trees cut down?

10 A. I think it's done through that easement.

11 Q. Okay. Thank you.

12 A. As typical.

13 Q. I'm going to skip back to your
14 surrebuttal page 2, lines 18 to page 3, line 1.

15 A. Can you give me those again?

16 Q. Surrebuttal page 2, line 18 through page
17 3, line 1.

18 A. Okay.

19 Q. In it, you are responding to Mr. Allen's
20 suggestion about -- well, you are expressing a
21 comment about the benefit of running parallel to
22 existing linear utility --

23 A. Yes.

24 Q. -- corridor? In that, you make a
25 comment. You say -- that's what I get for double

1 siding -- you say that having two parallel
2 corridors, about 1,000 feet apart would -- I'm
3 paraphrasing -- would result in fragmented forest
4 tracts to smaller habitat patches and increase the
5 amount of edge habitat. So that is basically what
6 you said in that? Do you stand by that?

7 A. Yes.

8 Q. Okay. Wouldn't reforestation eliminate
9 that problem? So if you cleared a section of
10 forested area, if you reforested a comparable area,
11 would that alleviate the problem with edge habitat?

12 A. No. No. I don't think those are
13 comparable replacements. So fragmentation is kind
14 of a -- there's a range of fragmentation effects.
15 So when you put a right of way through an area,
16 you're going to take forest patches and make them
17 smaller and decrease interior habitat, you're going
18 to create edge habitat. You're going to create a
19 lot of different impacts. Simply planting trees in
20 another location would not decrease the effect, it
21 would not reduce the effect of the fragmentation
22 cost by the original crossing. I guess I'm not
23 entirely sure I'm answering your question properly.

24 Q. No. That's good. Thank you. But if --
25 would it be possible under the reforestation, if it

1 was planned properly to basically rebuild that
2 fractured habitat, but by appending new trees or --

3 A. In between to the two rights of way?

4 Q. No. Like north of that forested area,
5 let's say.

6 A. I don't know as though that would be a
7 suitable -- they're very different impacts. They're
8 very different effects. Simply planting trees would
9 not necessarily reduce the overall effect of
10 fragmentation --

11 Q. That's good. Thank you.

12 A. -- in that scenario.

13 Q. No, that's fine. Thanks.

14 Just some questions about the -- since
15 we're on forestation and habitat issues, when you
16 were routing your line, did you consider paralleling
17 the line to flight paths for birds? Is that -- go
18 ahead.

19 A. I'm not sure I understand. Did we
20 consider paralleling the line --

21 Q. Did you consider running the line
22 parallel to aviary flight paths?

23 A. Did we compare the effect of your route
24 on aviary -- I'm confused.

25 Q. Well, go ahead and answer that question,

1 **yes, let's start there.**

2 A. Somewhat. I mean, the paralleling
3 existing transmission lines can mitigate that
4 effect. The truth of the matter is that most of the
5 aviated flight lines are north/south, and our route
6 is east/west, and there's no way to avoid those, in
7 this case.

8 Q. **Did you, in your planning process, did**
9 **you identify the flight paths for birds?**

10 A. I believe we did. I believe we
11 identified flyways.

12 Q. **Okay. Thank you.**

13 A. They're very broad areas.

14 Q. **Okay. Did that, identifying the flyways**
15 **include migratory routes?**

16 A. That is what a flyway would be.

17 Q. **Okay. And what about feeding flight**
18 **lines?**

19 A. I'm not familiar with.

20 Q. **Okay. If you will turn -- let me get**
21 **the page numbers. Here. We're going to go**
22 **backwards. Okay. If you would turn into and it is**
23 **5-61 in the main body of your schedule 2.**

24 A. -61.

25 Q. **Yes.**

1 A. Okay.

2 Q. Actually, I'd like you to back up to
3 5-58 please.

4 A. Okay.

5 Q. And as you, from 5-58, 5-59, 5-62 5-63
6 list tables of airfields.

7 A. Correct.

8 Q. There's a number of air fields in those
9 tables that are listed as private.

10 A. Correct.

11 Q. Did you verify that those private
12 airfields or airparks were in use?

13 A. So actually, in the initial development
14 conceptual routes and potential routes, we conducted
15 community roundtables, where we met with community
16 leaders, city engineers, county engineers, land
17 planning, folks in each county that are responsible
18 for permitting, zoning, whatever. We bring the
19 entire FAA database as part of that consultation to
20 bear with large format maps and ask them about their
21 knowledge of whether those air fields are active or
22 not. And so that's a first cut as determining
23 whether those air fields are active, and many of
24 them are not. Those that are, we keep, and then we
25 try to verify that the facilities are kept, well

1 kept and operating. And oftentimes that's the
2 identification of marker balls that are still on the
3 distribution line, windsocks, and plane barns that
4 are well kept, fuel outside of the facility,
5 etcetera. So we do pretty multistep process to
6 identify those.

7 **Q. Okay. Please turn to page 5-62.**

8 A. Okay.

9 **Q. You see where it says Shiloh Airpark?**

10 A. Yes.

11 **Q. Then based on your process, how did you**
12 **miss the fact that Shiloh Airpark is inactive?**

13 A. I'm not aware that it is inactive. At
14 the -- yeah, I'm not aware that it is inactive.

15 **Q. Okay. If you would turn to your**
16 **surrebuttal, page 5, line 23, and it goes to page 6,**
17 **line 9. That you are replying to Roseanne Meyer's**
18 **rebuttal testimony about the Shiloh Airpark?**

19 A. Yes.

20 **Q. Ms. Meyer, in her rebuttal testimony**
21 **brought up the issue that that air park was no**
22 **longer being used. So based on that how, in view of**
23 **your process, could you have missed that?**

24 A. Well, we have not conformed that it is
25 abandoned. We would have to confirm that. We have

1 seen that there's some information -- first of all,
2 again, it's got marker balls, the grass field and
3 grass strip are mowed, well taken care of, there are
4 two barns there, there's a giant sign on the side
5 that says Shiloh Airpark, there's fuel outside. And
6 there's a recent -- well, 2008 website with the
7 landowner outside with his light aircraft, I think
8 they're called light aircraft. But we would have to
9 verify that that air field is indeed closed down.

10 **Q. Okay.**

11 A. And even if it's not used often and it's
12 used, it is not abandoned.

13 **Q. I understand that. According to**
14 **Ms. Meyer, the plaintiff, the gentleman no longer**
15 **flies, and it's privately, you know, no one else**
16 **uses it.**

17 A. Okay.

18 **Q. So that is her basis for saying that.**

19 **Do you understand -- are you aware that**
20 **your route diverts from the REX pipeline to the**
21 **Keystone pipeline across the Reichert's property in**
22 **order to detour around the Shiloh?**

23 A. Yes.

24 **Q. Okay. If you determine that the Shiloh**
25 **Airpark is not in use, would you reroute?**

1 A. If there was new information that arose
2 about the Shiloh Airpark, we would be able to
3 consider other modifications of that route.

4 **Q. In view of the number of air parks the**
5 **private air parks listed, which are not a lot on**
6 **those tables, would it have been feasible just to**
7 **look up the owners and contact them directly?**

8 A. It's not part of our process. Would it
9 have been feasible? We could have contacted them.

10 **Q. Okay.**

11 A. We were -- I mean, the park was
12 identified at a public meeting officially by someone
13 that said there is an airfield there.

14 **Q. Right.**

15 A. And they knew the owner and said he
16 flies and so we didn't really question it, to be
17 candid with you.

18 **Q. Okay.**

19 A. We did go out review it, make sure it
20 was maintained with the existing infrastructure,
21 marker balls and the like, there was no suggestion
22 that it wouldn't be active.

23 **Q. But basically, you never asked the**
24 **owners of any of these air parks, yes or no, are you**
25 **using them?**

1 A. No, we did not.

2 Q. Okay. Now, what I would like you to do
3 is turn to your surrebuttal testimony, page 5, line
4 16. And then leave that open right there. And then
5 turn to -- turn to page 5-29. Now, on the, and, in
6 fact, we could also encompass, we're looking at
7 Table 5-10 on that page, and also, if you go to the
8 prior page, there's Table 5-9.

9 A. Okay.

10 Q. Okay. You list a percent of the routes
11 that cross the parcel boundary that are on parcel
12 boundaries. Do you see that? So, for instance --

13 A. Yes.

14 Q. And in your surrebuttal testimony, you
15 say that you sought to minimize impacts to aerial
16 spring operations by routing along existing
17 transmission lines, power section lines.

18 Does this percentage here include --
19 does this take into effect lands that are jointly
20 owned and farmed as one unit?

21 A. Does it include? Yeah. But again, a
22 lot of those still have tree rows and things across
23 the parcel boundary that may be owned by both. I
24 can't say for sure what the division would be.

25 Q. So do you know what percentage of these

1 where you, it says, here you're crossing parcel
2 boundaries. Do you know what percentage are being
3 farmed as unified?

4 A. I do not.

5 Q. Okay. So that number, for instance,
6 Route D, the 25 percent in Table 5-10, under parcel
7 boundary, could actually be overstated if there are
8 properties that were being parcels that were being
9 farmed on a unified basis?

10 A. They are still parcel boundaries.

11 Q. But they would cut across?

12 A. They may.

13 Q. Okay. And so that, in essence, if that
14 would then go and that 25 percent would be
15 overstated if that was the case?

16 A. The percent parallel to parcel boundary
17 is still accurate. Is there a potential within that
18 number for there to be unified farms crossed? Yes,
19 but that percent given the parcel boundaries still
20 exists and is accurate.

21 Q. Well, then -- so that percent doesn't
22 accurately reflect the impact, because you're
23 listing running along parcel boundaries shows as
24 minimizing the impact. But if there are unified
25 properties, this percent then does not accurately

1 **reflect that?**

2 MR. ZOBRIST: Judge, objection
3 argumentative, also compound.

4 JUDGE BUSHMANN: Sustained.

5 **Q. Let me try to rephrase this. So that 25**
6 **percent includes both parcels farmed individually**
7 **and also unified parcels, or could include unified**
8 **parcels; is that correct?**

9 A. It could.

10 **Q. And you're stating that 25 percent to**
11 **show the how you're routing a line to minimize**
12 **impact; is that correct?**

13 A. Yes.

14 **Q. So if there's parcels that are unified**
15 **within that 25 percent, then that number overstates**
16 **the minimization of interference with the farm**
17 **organizations due to the unified parcels?**

18 A. It could. Unless, again, if you have a
19 parcel that -- you often have multiple parcels owned
20 by same landowner, it's still on the tree row.

21 **Q. Right. I understand.**

22 A. And those are common and we did consider
23 where there were multiple farms owned by the same
24 landowner. We did try to avoid that when we could.

25 **Q. Okay. Thank you.**

1 A. That didn't have the tree row, we tried
2 to consider those.

3 Q. Okay. Now, in that same table, you have
4 where you're paralleling pipelines?

5 A. Yes.

6 Q. And you use that to go and also state
7 how you're trying to minimize the impact?

8 A. Correct.

9 Q. Are you aware that these pipeline routes
10 often bisect properties?

11 A. Yes.

12 Q. So that minimization is not as good as
13 it's purported to be?

14 A. Depending on what you're minimizing.

15 Q. Well, if you're saying that by running
16 parallel to the pipeline, you're minimizing the
17 impact on the landowner's land, since these, if
18 you're then with the transmission tower, you're
19 bisecting that land. That number doesn't reflect a
20 true -- it overstates or understates the impact on
21 the land?

22 A. I don't know as though I would make the
23 connection that you're making. Paralleling the
24 existing pipeline is to limit fragmentation, try to
25 consolidate the right of way into one area as

1 opposed to creating right of ways in other areas.
2 And so, in doing so, has different benefits than
3 maybe what you're referring to, which is crossing
4 diagonally across farm land. So I think they're
5 different benefits. I would not say that it's less
6 minimization.

7 **Q. Right. But for the landowner, the**
8 **landowner with a situation where there's pipelines**
9 **bisecting their property, they can farm that with**
10 **the rest of their property in one cohesive whole,**
11 **but the minute you put your transmission line**
12 **paralleling that pipeline route, you, in essence,**
13 **have created an impediment or could create an**
14 **impediment; is that correct?**

15 A. You could. Again, they could farm under
16 that right of way. So they're still going to be
17 able to farm the vast majority of that right of way.

18 **Q. Do you know with your route how many**
19 **parcels have been bisected?**

20 A. No, not offhand.

21 **Q. Okay. Did you consider that in your**
22 **route selection?**

23 A. Yes. Yeah, we attempted to, where we
24 are not at the diagonal is either along the pipeline
25 or in situations like the diversion that you're

1 referring to where we were in a diagonal line
2 because there was significant tree cover, and it's
3 probably not farmed in many places, or where the
4 diagonal allows for keeping the distance we want,
5 maintaining a greater distance from homes through an
6 area. Because again, when you follow the parcel
7 boundaries, a lot of times that's where you're
8 following, that's where on those homes are going to
9 be on those roads, parcel sections boundaries.

10 **Q. Okay. Thank you.**

11 **In developing the routing process,**
12 **especially near the tail end when you're getting**
13 **into the going from the alternates down to the**
14 **proposed route. Did you develop, within your team,**
15 **reports, memos, e-mails, discussing how the**
16 **characteristics of and the trade offs of the various**
17 **routes?**

18 A. Yes. The siting study is the report
19 that documents our rationale and decision-making
20 process. And we obviously had notes from the public
21 meetings. I got a significant amount of GIS data.
22 And then we had information we used to make those
23 decisions that culminated in the study, siting
24 study.

25 **Q. But before you reach this final report,**

1 **did you have draft reports?**

2 A. Oh, I'm sure.

3 **Q. Okay. Did your staff and you exchange**
4 **documents discussing the advantages of different**
5 **routes?**

6 A. Typically, it's within the same data
7 that you're looking at in the siting study.

8 **Q. Well, I understand it's the same data,**
9 **but you talked about a multidisciplinary approach?**

10 A. Right.

11 **Q. And did you, you know, document from the**
12 **various team members their thoughts about which**
13 **routes would be better, what the tradeoffs?**

14 A. It is actually documented in the siting
15 study. So our siting study gave you a little
16 description. So as we get down to the alternative
17 routes, we develop the data sets, the tables you're
18 looking at. We sit down with the entire
19 interdisciplinary team, or those that can be in one
20 place at one time, and catch the others later, with
21 the archaeologist, the land specialist, all the
22 different planners, transmission, and everything,
23 and go over the information. They then do their own
24 analysis, as you'll note in many of these sections,
25 there's a description of the character of that

1 resource. And then they gave their assessments of
2 each of the routes. And we do definitely meet.
3 Their notes are mostly written into the siting
4 study. That's their section of the document, so I
5 think the document is that report.

6 **Q. But as you, in development, did you go**
7 **and exchange drafts of those sections?**

8 A. Well, technically, we use SharePoint and
9 we have a live draft that's continually updated so
10 yeah.

11 **Q. Okay. And did you exchange thoughts**
12 **about the routes via e-mail?**

13 A. No, we typically have a group meeting
14 for that purpose. If there are thoughts, it's you
15 missed this archaeological site, we need to include
16 that in the table, things like that.

17 **Q. Okay. Now, will your firm or you be**
18 **involved in any future route adjustments?**

19 A. Probably.

20 **Q. Okay.**

21 A. It's a little presumptuous of me.

22 **Q. In your surrebuttal, page 6, line 6**
23 **through line 9. You state that you will discuss**
24 **minor adjustments to the route.**

25 **What is your definition of minor**

1 **adjustments?**

2 A. As you go forward in this process, it is
3 typical that as a line gets approved, you will be
4 conducting a range of different field survey
5 efforts, whether it's geotechnical, wetlands,
6 potential other surveys of endangered species and
7 the like. Those will require review and
8 consultation with other state federal agencies,
9 engineers, etcetera. And those will result in minor
10 modifications to make sure that the alignment is
11 constructable that it does not impeded or impact the
12 requirements of different state and federal
13 agencies. Those minor adjustments are intended to
14 be, you know, as similar to the existing route as
15 possible, but I can't really predict what minor will
16 be.

17 **Q. Okay. If a landowner asks you for a**
18 **minor route adjustment, what would that translate**
19 **into, if you can tell me, what would that translate**
20 **into in terms of feet?**

21 A. I can't dictate the feet, there's going
22 to be situations, and the landowner will provide,
23 there will be landowner requests that are considered
24 as well, and I can't tell you what the feet will be.

25 **Q. Okay. In your routing process, did you**

1 **consider centennial farms?**

2 A. We considered centennial farms as it
3 related to -- we did have some information about
4 them, but we did not. Centennial farms are just the
5 presence of a farm that's been in a family for more
6 than 200 years.

7 **Q. 100 or 150?**

8 A. 100 or 150. What we're more concerned
9 with, to be specific, is farms that have a historic
10 designate are either eligible or have are under the
11 national historic register, national register of
12 historic places. Those are the regulated features
13 that we would consider as part of the process.
14 Centennial farms can have a brand new building up.
15 It is not a historic resource in all cases.

16 **Q. Okay. So in terms of the centennial**
17 **farms, you're making a valued judgment as to the**
18 **importance of that?**

19 A. We did not consider centennial farms in
20 our siting study.

21 **Q. Okay.**

22 A. We did consider farms that were on the
23 national register of historic places that might have
24 been eligible in the state database.

25 **Q. Okay. In your study, you've talked**

1 **about visual impact. And you've, did you consider**
2 **that visual impact from the perspective of the**
3 **individual farm owner?**

4 A. We considered visual impact from the
5 individual, period. I mean, a lot of our siting
6 process is again, a balance of different impacts and
7 opportunity features. And when we could use a tree
8 row to try to separate the line from a nearby house,
9 we would do so, if it was within reason. Yeah. And
10 if, you know, parallel existing transmission lines
11 can limit the overall effect of visibility. We have
12 a variety of different measures to consider it as
13 part of the process.

14 And we do have a section on esthetics in
15 the document where we talk about the different
16 sensitive resources, visual resources. Typically,
17 again, we focus on what are commonly considered
18 regulatory specific sensitive resources, which
19 include historic structures, recreation sites,
20 scenic trails, scenic roads, that sort of thing. So
21 we include visual esthetics in many different ways.

22 **Q. Okay. Would you say though that**
23 **basically those ones you just mentioned really took**
24 **priority over the visual impact for the individual**
25 **landowners?**

1 A. No. We include -- the development of
2 the alignments, is we try to be considerate. You
3 know, we're reasonable to attempt to reduce the
4 overall visual effect of the line. It is a vertical
5 structure. It is going to be visible. And where it
6 might not be visible to somebody, it will be visible
7 to another person. So there are tradeoffs for that
8 whole alignment process and you have to consider
9 multiple views.

10 **Q. Before you talked about you drove all**
11 **the roads to verify residents.**

12 A. Our team did.

13 **Q. Right. Did you keep -- did your team**
14 **keep a log of those, of their travels?**

15 A. I don't believe so. The digitizing kind
16 of documents that.

17 **Q. And how does it document that?**

18 A. Well, I mean, you can see where they've
19 been, what roads they're on, because we actually
20 keep all the houses that are along an area, we'll
21 say verified. So we digitized the houses on aerial
22 photography first and then as we drive the roads, we
23 identified them as a verified house.

24 **Q. You provided the GIS data readable**
25 **through our GIS through data request?**

1 A. Yes.

2 Q. If I call up that, like the Reichert's
3 property with the homes and the buildings in that
4 area, you have little tiny balloons marking all the
5 residences. Okay. If those are verified, will
6 there be a note attached to them that's verified?

7 A. That's the column called verified and it
8 will say, yes or no.

9 Q. So if you click on one of those note
10 balloons, it will then show a column that says
11 verify or not?

12 A. It should. I don't know what note
13 balloon you're clicking on or using, I guess it
14 depends what software, how it pops up, but yes,
15 there should be an entry in there that says,
16 verified, yes or no.

17 Q. Okay.

18 A. And I'd have to make sure the data that
19 you have that attribute. I'm pretty sure you do.

20 Q. Okay. And one or two last questions.

21 Do you have with you, the response to
22 our data request? It's an article called the
23 Corridor Concept Theory and Application?

24 A. I do.

25 Q. Okay. Would you please turn to page 23,

1 which is the second page?

2 A. Okay.

3 Q. Okay. And it says, increased under
4 disadvantages and what and then down at the very and
5 then you have the second paragraph down under
6 disadvantages, it says: Decreases Disaster
7 Potential. And the article says: Should a natural
8 catastrophe or major facility failure occur, the
9 potential for multiple facility failure is increased
10 due to proximity.

11 A. Yes.

12 Q. Okay. Are you aware that there's been,
13 recently, a natural gas pipeline explosion in
14 Missouri?

15 A. No, I'm not.

16 Q. Okay. Would a natural gas pipeline
17 explosion impact, if you're running next to the
18 right of way of the natural gas pipeline, would an
19 explosion potentially damage the transmission lines?

20 A. I'd have to say that's probably a better
21 question for Mr. Galli.

22 Q. Okay.

23 A. That's beyond my realm.

24 Q. That's fine. And my last question is,
25 you made a comment that there were approximately 799

1 **acres of forested land? This was in your, in the**
2 **cross, with regarding the REX pipeline.**

3 A. I believe so. Subject to checking it,
4 but, yeah.

5 Q. I mean, so does that sound about right?

6 A. It does.

7 Q. Okay. Is that number -- did you verify
8 **though is that number just forested acres, and does**
9 **it look at who those have fragmented forested acres**
10 **or larger cohesive area?**

11 A. It does not. It just -- we actually
12 digitized this specific line in the right of way.

13 Q. Okay.

14 A. And did not determine whether those are
15 patches or fragments, etcetera.

16 MR. DRAG: Okay. Thank you for your
17 time. I have no further questions.

18 THE WITNESS: Thank you.

19 JUDGE BUSHMANN: Before we go any
20 further, let me just inquire, Mr. Jarrett, Mr.
21 Agathen, do either of you have extensive
22 cross-examination? I want to know if we need to
23 take a break right now.

24 MR. JARRETT: I think I've got less than
25 five minutes.

1 MR. AGATHEN: I have none.

2 JUDGE BUSHMANN: Okay. Let's just push
3 on and see how we do.

4 Show Me Concerned Landowners?

5 CROSS-EXAMINATION BY MR. JARRETT:

6 Q. Good afternoon, Mr. Gaul. How are you?

7 A. Good. Good afternoon.

8 Q. Good. I'm Terry Jarrett, attorney for
9 Show Me Concerned Land Owners and the Farm Bureau,
10 Missouri Farm Bureau.

11 Maybe we can short circuit a lot of
12 this. Were you here on Monday when Mr. Lawlor
13 testified?

14 A. I was.

15 Q. Okay. So good that will save some
16 questions. I want to go to page 2.2 of your route
17 selection study. And that's section 2.2 Process
18 Steps and Terminology?

19 A. Yes.

20 Q. And I believe there's eight steps there
21 from 2.2 or 2-2 and 2-3, correct?

22 A. Correct.

23 Q. Study areas, number one. Data
24 gathering, number two. Conceptual routes, number
25 three. Potential routes, number four. Future route

1 network, number five. Potential route, number six.
2 Alternative route, number seven, and proposed route,
3 number eight?

4 A. Yes.

5 Q. Great. Now, if we could go to section
6 3, 3.1, or 3-1, excuse me, the agency in public
7 outreach. And there you go through several pages, I
8 believe, it's very similar to what Mr. Lawlor
9 testified to. Would that be accurate as far as what
10 the public outreach, the process --

11 A. Yes.

12 Q. -- and so forth. Could you go to page
13 3-5 please?

14 A. Yes.

15 Q. That is the chart of the community or
16 table of the community leader roundtable locations
17 and attendance?

18 A. Correct.

19 Q. Now, there were 255 community leaders
20 total there. And how many meetings were there?
21 There were 24 meeting, 255 people showed up; is that
22 correct?

23 A. Yes.

24 Q. My question is, how do you determine
25 when you've met with a sufficient number of

1 **community leaders to move forward to the next step?**

2 A. Well, so what we're looking for is to
3 get the input we need from them, largely for the
4 siting process, from my perspective.

5 **Q. Correct.**

6 A. My perspective, is different. It may
7 not be the same as other contacts. Mine is
8 specifically focused on gathering data.

9 **Q. Correct.**

10 A. So we -- it's a normal step to go
11 through. Communicate with those community leaders,
12 the local zoning or planning entity in any county.
13 And then gather what data you can, use that
14 information as part of the ground based information
15 you're also getting, and move that information into
16 the analysis portion.

17 **Q. Okay.**

18 A. So I'm not sure -- I think -- I'm not
19 sure how to answer your question to be candid with
20 you.

21 **Q. Let me ask you this. And I'll use an**
22 **extreme example.**

23 A. Okay.

24 **Q. Let's say you held these 24 roundtable**
25 **meetings and zero people showed up. Would you do**

1 additional outreach activities to try to meet with
2 community leaders?

3 A. Yes, we would probably go to their
4 office, you know, try to get in front of them, for
5 one-on-one meetings, if we can. We would try to
6 find some means to connect with them.

7 Q. So would it be accurate to say, you
8 don't really look at the number of people you've
9 met, you just look at the data you've collected and
10 when you've collected a sufficient amount of data
11 for your purposes, you'll move on. Is that
12 accurate? I'm not trying to put words in your
13 mouth. But I'm trying to determine when you
14 decided, hey, we've received sufficient input from
15 community leaders, we're ready to move forward?

16 A. Yeah, I think that we try to do our best
17 at the timeframe we have, yet I would say we try to
18 communicate with those leaders. I think we're going
19 to find those community leaders have the most
20 relevant information, we're going to collect that
21 information and use that information to make our
22 judgments. I'm not sure if there's an assessment
23 of, is this enough? I guess, inherently there is.
24 I guess, I've never thought of your question to be
25 candid with you.

1 I think we move along. We get a
2 considerable amount of information for those
3 contacts and use that information in addition it,
4 and this critical, all the other information we're
5 gathering through field reconnaissance through
6 aerial photography analysis. It's a pretty involved
7 process.

8 Q. And I think the community leader
9 roundtables are held in the conceptual route
10 phase? As I recall on page 2-2 of your study?

11 A. Yes.

12 Q. All right. Now, let's move to 3-7.
13 Page 3-7. And this is a table of the open house
14 locations and attendance, correct?

15 A. Yes.

16 Q. Now, I'll ask you the same question. I
17 have the same question there. Is there a point
18 where you've determined you've received sufficient
19 information from the public, the landowners, where
20 you say, okay, we've received enough input, we're
21 ready to move forward to the next phase?

22 A. I think we go through our process.
23 Notify individual landowners to come to the
24 meetings. We then meet with those individual
25 landowners at the public meeting. And then using

1 that information. And again, all the information
2 we're collecting along the way, we're going to
3 continue to build information throughout the process
4 to go to the next step.

5 **Q. Right. And I'll use the same example**
6 **that I used before. Let's say that held these open**
7 **house meetings and zero people showed up. Would you**
8 **do additional outreach to try to talk with**
9 **landowners and the public before moving to the next**
10 **step?**

11 A. So, as an example, we had an event in
12 Kansas where weather prevented a bunch of people to
13 show up and we had another meeting there, so, yeah.

14 Another example, we technically invited
15 many of the people that were along our route, a link
16 that we eventually added in Moberly. We had another
17 meeting there to make sure we could gather
18 information from those folks out in Moberly on some
19 route changes. So I think we want to give them a
20 chance.

21 **Q. Right. So maybe I should ask it this**
22 **way. Do you use your professional judgment and make**
23 **a judgment call based on your experience that you've**
24 **met with enough of the public and the landowners to**
25 **move to the next step?**

1 A. Again, I think we develop a process, we
2 follow that process, and use the information that
3 comes out of that process to go to the next step.

4 **Q. All right. And I guess I'm trying to**
5 **determine where that line is when you say, okay,**
6 **we've met that and we're ready to move forward?**

7 A. I think in the situation where we don't
8 have anybody show up, like I mentioned, we would do
9 something to try to improve it, our information
10 gathering at least if -- yeah, I think, I'm not sure
11 I can answer any further than that.

12 **Q. And just a couple more questions.**

13 A. Sure.

14 **Q. I'm going to refer to your surrebuttal**
15 **testimony pages 4 and 5. And on pages 4 and 5, you**
16 **address Show Me witness Charlie Cruise's testimony**
17 **where he talks about a possible negative impacts to**
18 **land from the transmission line, correct?**

19 A. Yes.

20 **Q. And your answers, I think those**
21 **questions where you sought to minimize the impacts,**
22 **correct?**

23 A. Yes, in consideration of all the other
24 opportunity feeders and constraints.

25 **Q. Right. But you don't claim there are**

1 **zero negative impacts?**

2 A. No.

3 MR. JARRETT: I don't have any further
4 questions. Thank.

5 THE WITNESS: Okay.

6 JUDGE BUSHMANN: Landowners Alliance?
7 Questions from the bench. Mr. Chairman?

8 CHAIRMAN KENNEY: No, thank you. Thanks
9 for your time, sir.

10 THE WITNESS: Thank you.

11 JUDGE BUSHMANN: Commissioner Stoll?

12 COMMISSIONER STOLL: A couple questions.

13 THE WITNESS: Sure.

14 QUESTIONS BY COMMISSIONER STOLL:

15 **Q. Has an electric version of the proposed**
16 **route been created yet or will it be created?**
17 **Anything like an electronic version where you could**
18 **or the commission or others could see?**

19 A. I believe we do. And I'd have to
20 verify. It's been a while since I've looked at my
21 own electronic data. So I believe we have PDF maps
22 of the route on the Clean Line website.

23 COMMISSIONER STOLL: Okay. I probably
24 just need to go to that website then. Okay. I
25 think that's it. I'll check that. Thank you.

1 THE WITNESS: Okay. Thank you.

2 COMMISSIONER HALL: Hello, I have a few
3 questions.

4 THE WITNESS: Hello.

5 QUESTIONS BY COMMISSIONER HALL:

6 Q. On page 27 of your siting study, you
7 list the general guidelines and the technical
8 guidelines followed by you and your team in
9 formulating this study?

10 A. Yes.

11 Q. Are these standard guidelines?

12 A. They begin as a standard set. In the
13 beginning of our process, we coordinate with a lot
14 of the state and federal agencies and through the
15 roundtable process to tailor some of those
16 guidelines for the specific study area. Not all
17 study areas are going to have irrigation, etcetera.
18 So we do tailor them as part of our initial agency
19 coordination and county roundtable process.

20 Q. Guideline B. Under general guidelines,
21 maximize the separation distance from and/or
22 minimize impacts on residents. That's standard?

23 A. Yeah, it's pretty standard, yeah.

24 Q. Did I hear you say earlier today that
25 the standard goal was 250 feet?

1 A. No. It's 250 feet and 500 feet, in my
2 experience, in many states, is a typical
3 quantification distance, so they'll, you know, how
4 many houses are within 250 feet, how many houses are
5 within 500 feet, etcetera, as a means of comparing
6 routes.

7 **Q. So there was not a specific goal that**
8 **you had in mind?**

9 A. No.

10 **Q. Would that have been possible?**

11 A. It becomes pretty challenging. And the
12 reason being, if you want to maintain the
13 consideration of things like parcel boundaries,
14 existing linear infrastructure, etcetera, you have
15 to consider all those pieces together. If you say
16 that there's, you know, if you set a standard
17 distance away from homes you end up with a route
18 that's probably going to impact, it's very rarely
19 going to be less likely be on parcel boundaries, it
20 won't follow other opportunity features, it will
21 have many angles, and it will be a less direct route
22 through the community, through the area.

23 **Q. Why do you believe it's more important**
24 **to follow parcel boundaries than it is to maximize**
25 **distance from residences?**

1 A. There's a variety of different
2 situations where the distance between a house and
3 the line vary in relative impact. And that's why we
4 say distance from and/or minimize impact. Because
5 you could have, at 500 feet, you could have a small
6 ridge or a tree line that will, you know, basically
7 separate that home from the house. And so there's a
8 variety of different situations where not all
9 distances are created equal, to be candid.

10 **Q. Okay. I'm not sure if you answered my**
11 **question or if I just didn't understand your answer.**

12 **Why is it more important to try to put**
13 **the line along parcel boundaries than it is to**
14 **minimize the impact on residences?**

15 A. Because there are other values of that
16 land that the landowner will want to be maintained.
17 And I have had people, in fact, recently, ask for
18 the line to be closer to their home, if it prevents
19 impact on another part of their property. So it is
20 not -- it is an important factor, but there are
21 other factors that we consider in that spacing that
22 need to be considered in the alignment.

23 **Q. Did you have instances where landowners**
24 **had the opposite request?**

25 A. Move it further from my house?

1 **Q. Yeah, move further from my house and**
2 **ignore the parcel boundary.**

3 A. Not any specific requests. I mean, I
4 think, in general, people want it away from their
5 homes. But, again, I think that you have to
6 consider the sequiturity of that route, and the
7 other factors. And in some cases the other
8 landowners adjacent to those landowners, their land
9 use, etcetera.

10 **Q. Do you know how many -- is it true that**
11 **there are 528 landowners who have property affected**
12 **by the transmission line?**

13 A. I believe that sounds right. That's
14 about right.

15 **Q. Do you know of that 528, how many owned**
16 **land where the line is within a certain number of**
17 **feet of their homes, if it's 250 or 500?**

18 A. Yeah, there's a table on the siting
19 study.

20 **Q. Where is that?**

21 A. I'm sorry. Sure. There's two. Hold on
22 just one moment. On page 5-34 and 5-36.

23 **Q. So on page 5-34, Route B is the one that**
24 **was chosen, correct?**

25 A. Correct.

1 Q. So there would be does is a dash mean
2 zero?

3 A. Correct.

4 Q. Okay. So there were no homes within 250
5 feet and 11 within 500?

6 A. Correct.

7 Q. Okay. I think I know the answer to
8 this, but I'm going to ask it anyway.

9 Why did you not propose a route that
10 hugged 36?

11 A. So we looked at 36, and actually,
12 eventually, we could not find a route that didn't
13 have significant residential, commercial development
14 along it. 36 is a major highway and it's not
15 uncommon for people to say, put it up next to the
16 highway. But when you get up to that highway, you
17 start looking at aerial imagery, highways connect
18 towns. There's typically more development in those
19 towns, commercial development, as well. And you end
20 up, one, not being near the highway. And often
21 having a sequiturs routes, a route that has a lot of
22 diversions. We ended up finding a route that was
23 reasonable, I think a half mile south of 36. And we
24 did compare it to other routes in the siting study
25 eventually ruled that out as well. Largely, because

1 it was longer and that had brought us close to all
2 of the communities along 36 as well. I think, we
3 have a description in the siting study.

4 Q. So if you had chosen a route that went
5 along 36 for a portion, there would be more
6 landowners impacted and upset, in your estimation?

7 A. Yes. I believe there were more parcels,
8 it was longer, yes.

9 Q. Okay. On page 5-28. I just want to
10 make sure I understand the bottom number. The total
11 percent ROW parallel? What does ROW stand for?

12 A. Right of way.

13 Q. Okay. And again, you chose Route B so
14 36 percent is the number. That number does not mean
15 that 36 percent of the line is either parallel to
16 transmission, parallel to a pipeline, or parallel to
17 a parcel, does it?

18 A. It does.

19 Q. Well, aren't there instances where you
20 could have a portion of the line that goes parallel
21 to transmission and pipeline?

22 A. Yes. But that doesn't occur in this
23 study area. We don't have -- I mean, we would be --
24 we don't have any. The Rockies Express Pipeline
25 corridor, which is the one at subject here, does not

1 have a transmission line adjacent to it.

2 **Q. So they're --**

3 A. Maybe I'm not answering your question.
4 That includes, yeah, that would include the sum of
5 all transmission line parallel, pipeline parallel,
6 and parcel boundary parallel. They are mutually
7 exclusive so that --

8 **Q. Why are they mutually exclusive?**

9 A. Well, because they are in space in this
10 case.

11 **Q. Just in reality?**

12 A. Yeah.

13 **Q. Okay. If.**

14 COMMISSIONER HALL: I'm good. Thank
15 you.

16 THE WITNESS: Thank you.

17 JUDGE BUSHMANN: Recross based on bench
18 questions. Wind on the wires?

19 MR. REED: No. Thank you.

20 JUDGE BUSHMANN: Commission staff?
21 Rockies Express?

22 MS. DURLEY: No questions.

23 JUDGE BUSHMANN: Reicherts Meyers?

24 MR. DRAG: No questions, your Honor.

25 JUDGE BUSHMANN: Show Me Concerned

1 Landowners?

2 MR. JARRETT: No questions.

3 JUDGE BUSHMANN: Landowners Alliance?

4 MR. AGATHEN: No questions, Judge.

5 JUDGE BUSHMANN: Redirect by Grain Belt?

6 MR. ZOBRIST: Just a couple of

7 questions.

8 REDIRECT EXAMINATION BY MR. ZOBRIST:

9 Q. Mr. Gaul, I believe in cross-examination
10 and perhaps in response to Commissioner Hall's
11 question. The issue of minor deviations came up.
12 Why is it important to have minor deviations
13 permitted to the location of the line in this case?

14 A. Minor deviations are critical in any
15 transmission line. This happens as a result of
16 after you get approval of the project, we're going
17 to collecting information on geotechnical conditions
18 along the right of way. You're going to have
19 subsequent, regulatory, and permitting requirements
20 from state and federal agencies MDNR, U.S. Official
21 Wildlife Service, and the Corps. And they'll have
22 requirements that you have to consider as part of
23 your, kind of minor, that might require minor
24 alignment adjustments to reduce and minimize impacts
25 as part of their requirements for that permit. In

1 addition, frankly, there will also be parcel
2 boundary surveys that might result in a minor shift
3 in the alignment based on differences between the
4 county's perception of those parcel boundaries and
5 the data we receive.

6 **Q. Will landowner consultation be a part of**
7 **that process?**

8 A. Yes.

9 **Q. Okay. Is that a typical process that is**
10 **followed by other utilities and infrastructure**
11 **companies that are building capital projects like**
12 **this?**

13 A. Yes. I wouldn't say it's typical. I
14 would say it's almost required. It's necessary.

15 **Q. Now, I believe that when Mr. Jarrett was**
16 **going through the groups that you had consulted, is**
17 **the Nature Conservancy one of those groups that you**
18 **consulted?**

19 A. Yes.

20 **Q. And I just have an exhibit, I think we**
21 **had testimony about their website, but.**

22 **Would you identify what I've had marked**
23 **as Exhibit 125?**

24 A. Yes, it's a Nature Conservancy web page
25 printout that describes Missouri. The Nature

1 Conservancy helps plan the new energy transmission
2 route. In this case, the Grain Belt Express route.

3 **Q. And did you and your colleagues at Louis**
4 **Berger work with the Nature Conservancy?**

5 A. Yes, we did.

6 **Q. And does this represent at least their**
7 **view of that process?**

8 A. Yes.

9 MR. ZOBRIST: Move the admission of
10 Exhibit 125, Judge.

11 JUDGE BUSHMANN: Any objections?

12 Exhibit 125 is received into the record.

13 (GRAIN BELT EXPRESS EXHIBIT 125 RECEIVED
14 INTO EVIDENCE.)

15 MR. ZOBRIST: Nothing further. Thank
16 you.

17 JUDGE BUSHMANN: Thank you for your
18 testimony, Mr. Gaul.

19 THE WITNESS: Thank you.

20 JUDGE BUSHMANN: You may be excused.

21 MR. WILLIAMS: Judge, if I might.
22 Commissioner Stoll indicated an interest in, I
23 believe, seeing some more granular maps of the
24 proposed route in Missouri. I've downloaded a
25 series of 21 from the website for the company. I

1 think probably the parties could take a look at
2 those and if we agree, put those into the record
3 perhaps electronically. I would hate for a
4 commissioner to go extra record.

5 JUDGE BUSHMANN: If the parties consent
6 that would be acceptable.

7 MR. ZOBRIST: I just have to consult
8 with my client. I don't know what that means for us
9 to have to do.

10 JUDGE BUSHMANN: You can tell me later
11 if you agree to do that.

12 MR. ZOBRIST: Okay.

13 JUDGE BUSHMANN: We need to stop by
14 6:00. And so we have a couple of options. We can
15 either just stop now, call it a day, or we can take
16 a short break and maybe start Mr. Cleveland, I
17 believe, but that would be the risk of breaking up
18 cross. So I wasn't sure what you'd prefer to do.

19 MR. ZOBRIST: Well, I would prefer to
20 take a short break and see if we can start with
21 Mr. Cleveland and perhaps we can finish cross and
22 then begin in the morning with Commissioner
23 questions.

24 JUDGE BUSHMANN: Just as a warning
25 though we'll need to stop around 6:00.

1 MR. ZOBRIST: That's fine, Judge.

2 JUDGE BUSHMANN: Okay. Well, let's take
3 a 10-minute break, and we'll start again at 5:30.

4 (Break was taken.)

5 JUDGE BUSHMANN: I'd like to call the
6 next witness please.

7 MR. ZOBRIST: Grain Belt Express calls
8 Robert Cleveland to the stand. He's at the stand.

9 JUDGE BUSHMANN: I was waiting for
10 someone to walk up.

11 (Witness sworn.)

12 ROBERT CLEVELAND testified as follows:

13 DIRECT EXAMINATION BY MR. ZOBRIST:

14 **Q. Please state your name.**

15 A. Robert Andrew Cleveland.

16 **Q. And where are you employed?**

17 A. I'm employed with Litus Engineering.

18 **Q. And what is your position there?**

19 A. I'm a Managing Consultant.

20 **Q. Okay. And did you prepare surrebuttal**
21 **in this testimony, which I've marked as Exhibit 117?**

22 A. Yes, I did.

23 **Q. Now, are you familiar with the direct**
24 **testimony that was prepared by Gary Moland?**

25 A. Yes.

1 Q. Okay. And I have marked this as Exhibit
2 116. Are you prepared to adopt the testimony, the
3 direct testimony of Gary Moland?

4 A. Yes.

5 Q. Okay. And do you have any corrections
6 to either Mr. Moland's testimony, which you have
7 adopted or your surrebuttal testimony?

8 A. In my surrebuttal testimony, I did
9 correct one of the schedules that Mr. Moland
10 submitted.

11 Q. And where was that? What is that
12 correction?

13 A. That correction was on the demand cost
14 and locational marginal price benefits for Grain
15 Belt. It's in my schedule RC-2.

16 Q. Okay. Okay. Let me clarify. I'm just
17 asking you if there's anything here that you need to
18 correct. For example, you changed jobs, I
19 understand.

20 A. No, nothing else.

21 Q. And would you make the correction of
22 where you're working today versus what it states at
23 page 1 -- and I just lost the line here, page 1,
24 line 19 of your surrebuttal, where it says, you're
25 employed by DNV GL as Senior Project Engineer?

1 A. Yes, that's a correction. I left that
2 company last Friday and started with Litus
3 Engineering this Monday.

4 **Q. All right. And you've already testified**
5 **as to what your position is at Litus Engineering?**

6 A. Yes. Correct.

7 **Q. Are there any other corrections to your**
8 **surrebuttal?**

9 A. No.

10 MR. ZOBRIST: Judge, I offer Exhibit
11 116, the direct testimony of Gary Moland, which this
12 witness has adopted. And the surrebuttal testimony
13 of Robert Cleveland marked as Exhibit 117. The
14 Moland testimony is Exhibit 116.

15 JUDGE BUSHMANN: Any objections?

16 MR. AGATHEN: I'm afraid I do, your
17 Honor. First, object to all the testimony and
18 schedules of Mr. Moland, Exhibit 116, which were the
19 subject of the November 4 motion of Missouri
20 Landowners Alliance to strike portion of Grain
21 Belt's evidence on the basis of Section 536.070 (11)
22 Revised Statutes of Missouri. For the reasons set
23 for in that motion. Again, that's one you've
24 already ruled on, obviously.

25 And for the same reasons set forth in that

1 same motion, we object to the following material
2 from the surrebuttal testimony of Mr. Cleveland
3 that's in Exhibit 117, his schedule RC-2 and
4 surrebuttal testimony page 3, line 4 through page 7,
5 line 5; page 9, line 14 through page 10, line 4; and
6 page 11 lines 2 through 5.

7 JUDGE BUSHMANN: And for the same
8 reasons in the order or ruling that was previous,
9 those objections are overruled.

10 MR. AGATHEN: Understood.

11 JUDGE BUSHMANN: Exhibits 116 and 117
12 are received into the record.

13 (GRAIN BELT EXPRESS EXHIBITS 116 AND 117
14 RECEIVED INTO EVIDENCE.)

15 JUDGE BUSHMANN: Cross-examination by
16 Wind on the Wires?

17 MR. REED: No sir.

18 JUDGE BUSHMANN: Commission staff?

19 MR. ANTAL: Thank you, Judge.

20 CROSS-EXAMINATION BY MR. ANTAL:

21 Q. Good evening, Mr. Cleveland.

22 A. Hello.

23 Q. A few questions. Did you review the
24 testimony of staff witness Sarah Kliethermes in
25 preparing your surrebuttal?

1 A. Yes, I did.

2 Q. Okay. Ms. Kliethermes recommended the
3 Commission order Grain Belt to work with staff and
4 other interveners to perform some additional
5 studies, did she not?

6 A. She did.

7 Q. Okay. Did you perform a study of the
8 project's effect on generation owned by Missouri
9 load serving entities for the year 2019?

10 A. Yes, I did.

11 Q. Did you consult with staff or any other
12 intervener regarding the reasonableness of the study
13 load assumptions of that study?

14 A. No.

15 Q. Okay. Did you consult staff or any
16 other intervener regarding the reasonableness of the
17 study generator capacities or generator
18 efficiencies?

19 A. No, I did not.

20 Q. Okay. There's a theme here.

21 A. Sure.

22 Q. Did you consult with staff or any other
23 intervener regarding the reasonableness of the
24 studied dispatch stack or generator bids?

25 A. No.

1 Q. Did you consult with staff or any other
2 intervener regarding the reasonableness of the
3 studied wind delivery used for the study?

4 A. No.

5 Q. Did you consult with staff or any other
6 intervener regarding the reasonableness of the level
7 of precision used in modeling the generator heat
8 rate curves?

9 A. No.

10 Q. Did you consult with staff or any other
11 intervener regarding the reasonableness of the level
12 of precision used in modeling transmission loading
13 curves?

14 A. No.

15 Q. Did you consult with staff or any other
16 intervener regarding the reasonableness of the level
17 of precision used in modeling any other inputs to
18 the PROMOD model?

19 A. No.

20 Q. If the assumptions used by yourself in
21 the modeling, modeling the effects on generation
22 owned by Missouri load serving entities were
23 changed, would you expect to find that the model
24 results would be different?

25 A. No, I wouldn't.

1 **Q. Why is that?**

2 A. Because the modeling inputs I've used in
3 my PROMOD studies are from a very reputable and
4 verified source from Ventex, the company that
5 produces bromine software and delivers the database.
6 And the sources that Ventex uses to derive all of
7 the inputs that you've described are checked and
8 used by MISO and SPP and other entities and they're
9 very trustworthy.

10 **Q. Okay. Maybe I wasn't clear in my**
11 **question. I wasn't questioning the integrity of the**
12 **inputs. I was simply asking, if the inputs were**
13 **changed, would the results of modeling be changed?**

14 A. At a very small level, yes. If you're
15 asking me if the benefit would change, I would
16 guess, no.

17 MR. ANTAL: Okay. Thank you. No other
18 questions.

19 JUDGE BUSHMANN: Reichert and Meyers?

20 MR. DRAG: No questions, your Honor.

21 JUDGE BUSHMANN: Show Me Concerned

22 Landowners?

23 CROSS-EXAMINATION BY MR. JARRETT:

24 **Q. Good evening, Mr. Cleveland.**

25 A. Hello.

1 Q. Did you provide Dr. Proctor with your
2 work papers where you performed the calculations for
3 congestion costs for Ameren Missouri with and
4 without the addition from wind power coming from
5 Grain Belt Express?

6 A. Yes.

7 Q. The base case you ran had less Missouri
8 generation capacity than the Grain Belt Express
9 case; is that correct?

10 A. Less generation capacity in total? Can
11 you repeat that question?

12 Q. The base case you ran has less Missouri
13 generation capacity than the Grain Belt Express
14 case; is that correct?

15 A. I believe. Let me try to restate your
16 question. If you're saying that the base case had
17 less generation production than the Grain Belt case;
18 is that correct?

19 Q. I believe so, yes.

20 A. Yes, that is correct.

21 Q. Okay. And both cases were run against
22 the 2019 Ameren Missouri load; is that correct?

23 A. The Ameren Missouri load was part of the
24 load for the full model footprint, yes.

25 Q. Okay. And even with the addition of

1 generation capacity in the Grain Belt Express case,
2 the energy generated by Ameren Missouri generation
3 and the Grain Belt Express case was lower than in
4 the base case; is that correct?

5 A. That's correct.

6 Q. When adding energy generated from wind,
7 is it safe to assume that the marginal cost of that
8 energy is lower than the marginal cost of energy
9 coming from Ameren Missouri's fossil fuel and
10 nuclear generation, and is therefore loaded first in
11 the dispatch order?

12 A. Not necessarily.

13 Q. And why is that?

14 A. Nuclear power is typically priced below
15 wind in the simulations that we run to reflect the
16 fact that you are not going to dispatch down a
17 nuclear power plant, you can't dispatch that down to
18 allow wind into the system.

19 Q. Okay. And in order for the generation
20 to actually decrease when cheaper generation is
21 added, what has to happen to Ameren Missouri's
22 purchases or sales energy into the wholesale market?

23 A. It depends on that particular hour in
24 the system and the dispatch situation.

25 Q. Do purchases either go up or go down?

1 A. Purchases may go up when the wind comes
2 into the injection point, Ameren generation backs
3 down, they could perhaps have to purchase more in
4 certain situations.

5 **Q. And if Ameren Missouri's generation is**
6 **compared to its load. Do you agree that when**
7 **generation is greater than load Ameren Missouri is**
8 **selling energy? When generation is less than load,**
9 **Ameren Missouri is purchasing energy?**

10 A. That's the definition we use, yes.

11 **Q. Okay. In your runs, sales by Ameren**
12 **Missouri increased in the Grain Belt Express case,**
13 **but purchases fell by more than the increase in**
14 **sales. Do you agree?**

15 A. I would need to refer to that schedule.
16 Can you point to where that?

17 **Q. Well, subject to check, would you say**
18 **that the results were 51,349 megawatt hour increase**
19 **in sales and a -57,728 megawatt hours decrease in**
20 **purchases? Subject to check.**

21 A. I guess I'm still looking for that
22 particular -- you're saying specific to Ameren?

23 **Q. Yeah.**

24 A. Is this within the adjusted production
25 cost results?

1 **Q. Yeah. In your run sales by Ameren**
2 **Missouri increased in the Grain Belt Express case,**
3 **but purchases fell by more than the increase in**
4 **sales?**

5 A. Again, could you please point to which
6 schedule you're referring to?

7 **Q. I believe it's DR1D?**

8 A. Okay. In that case, I don't believe I
9 calculated that. With that data request, I provided
10 hourly generation results. I don't believe I summed
11 those and compared them.

12 **Q. But if you calculated them, with subject**
13 **to check, would the numbers that I read to you be,**
14 **correct?**

15 A. Can you restate the values please?

16 **Q. Yeah, 51,349 megawatt hour increase in**
17 **sales and the -57,728 megawatt hours decrease in**
18 **purchases.**

19 A. Subject to check. That's possibly. A
20 negative decrease also makes me wonder the exact
21 definition. But if you're saying that sales
22 increase with Grain Belt and purchases decrease,
23 that's possible.

24 **Q. Okay. In the worksheet you sent to Dr.**
25 **Proctor shows the hourly cost component for what you**

1 described as the what AMMO generation hub; is that
2 correct?

3 A. Yes.

4 Q. And the AMMO is Ameren Missouri?

5 A. That's correct.

6 Q. For the base case, how did you calculate
7 the hourly generation cost for the Ameren Missouri
8 generation hub?

9 A. That is a direct output of the PROMOD
10 model. It produces the L and P at each point, at
11 each bust that you request reporting for. For the
12 case of AMMO gen hub, I defined a hub, which
13 contained all of the generator nodes for Ameren
14 generation, and it was a generation weighted hourly
15 report of L and P congestion component.

16 Q. Okay. And for the Grain Belt Express
17 case, was the calculation of the hour congestion
18 cost component for the Ameren Missouri generation
19 hub, the same as for the base case with the addition
20 and a half to wind energy at the Palmyra Tap?

21 A. The calculation within the PROMOD
22 simulation model, was the same.

23 Q. And were these calculations done after
24 the two model runs on a spreadsheet?

25 A. No, they are a direct output of PROMOD.

1 Q. And did you provide those PROMOD results
2 in your work papers?

3 A. Yes, I did.

4 Q. What checks and balances did you perform
5 to ensure that these calculations were correct?

6 A. For the calculations of congestion
7 component, there is no check and balance because
8 it's a direct output of the PROMOD model.

9 Q. Okay. And when you calculated
10 congestion costs for the base and Grain Belt Express
11 cases, you did not take into account sales and
12 purchases of energy; is that correct?

13 A. I calculated that as a -- I calculated
14 the congestion cost, it's actually congestion
15 revenue of Ameren generation as a separate component
16 in trying to determine the net congestion costs. I
17 believe it was a different methodology than
18 Dr. Proctor was trying to get to.

19 Q. Okay. And your calculation found
20 congestion in the base case to be \$244,065 in the
21 Grain Belt Express case. Oh. In the base case to
22 be \$244,065 and the Grain Belt Express case to be
23 -\$149,510; is that correct?

24 A. That's correct.

25 Q. And would you agree that both of these

1 numbers are within the range of production cost
2 modeling errors?

3 A. No, I don't agree to that.

4 Q. And why don't you agree?

5 A. I don't agree because the PROMOD
6 simulation has shown that the differential between L
7 and Ps and between other results are significant.
8 They are far beyond a simple error within the PROMOD
9 simulation.

10 Q. Is it correct to assume that you did no
11 analysis of the impact of purchases and sales on the
12 congestion cost for the Grain Belt Express cases?

13 A. That's not -- I don't agree with that.

14 Q. Well, it's a yes or no question.

15 A. Can you restate it please?

16 Q. Sure. Is it correct to assume that you
17 did no analysis of the impact of purchases and sales
18 on the congestion cost for the Grain Belt Express
19 cases?

20 A. No.

21 Q. So you did do an analysis of the impact
22 of purchases and sales?

23 A. The impact of purchases and sales is
24 embedded in the comparison of demand costs to
25 generator costs.

1 Q. Well, do you agree that the congestion
2 costs at either the load hub or the generation hub
3 alone measures congestion to a hub or is chosen as a
4 basis for doing the congestion cost calculations for
5 all the nodes in the model, and which has no
6 particular relevance to specific utilities?

7 MR. ZOBRIST: Let me object. That's
8 compound, Judge.

9 Q. Is there a basis hub that you pick?

10 A. The basis hub for the calculations as it
11 applies to Ameren Missouri is the MISO reference hub
12 for the MISO market.

13 Q. All right. And that's the basis hub?

14 A. That is the basis hub from which you
15 calculate the congestion component, yes.

16 Q. Is it true that when the difference in
17 congestion costs to the basis hub are calculated
18 between a load and a generator hub that difference
19 measures the price or per megawatt to cost of
20 congestion between the load hub and the generation
21 hub?

22 A. Again, I'm sorry. But can you restate
23 that one more time?

24 Q. Yeah. Is it true that when the
25 difference in congestion costs to the basis hub are

1 **calculated between a load and generation hub that**
2 **difference measures the price per megawatt cost of**
3 **congestion between the load hub and the generation**
4 **hub?**

5 A. I still don't quite understand when you
6 say the load hub with reference to the basis hub
7 when compared, it sounds like we're comparing all
8 three.

9 **Q. Well, I guess the question is, what you**
10 **do is you have the generator hub, right?**

11 A. Right.

12 **Q. And you have the load hub?**

13 A. Yes.

14 **Q. And then up here then you've got the**
15 **basis hub?**

16 A. The basis. Yes.

17 **Q. And so when you're figuring the congestion**
18 **costs between the generator and the basis, and the**
19 **load and the basis?**

20 A. Right. Right. So that's not a specific
21 calculation that's done outside. It's within the
22 model that the load hub is always calculated with
23 reference to the load hub L and P and every
24 component of L and P calculated with reference to
25 the MISO reference or basis hub, as you're calling

1 it. And the same thing goes for the generator. The
2 Ameren generator hub is calculated with reference to
3 the MISO basis hub, within that hour. I don't -- we
4 don't see what that MISO reference price is unless
5 we record it separately and compare it.

6 **Q. Okay. Would you agree then that the**
7 **congestion cost at either the load hub or the**
8 **generation hub has no particular relevance to the**
9 **congestion cost of the utility when comparing its**
10 **own generation to its own load?**

11 A. I don't agree with that. My methodology
12 is to calculate the congestion as it applies to
13 Ameren demand and to calculate load as it applies to
14 Ameren generation. And that's how I have always
15 broken it out in all of my studies. And you can
16 take that difference and get to the net congestion
17 cost that is directly applicable to how Ameren
18 interacts with the MISO market.

19 **Q. All right. So let's look more closely**
20 **at your calculation. For each hour, you multiplied**
21 **the megawatt hour of generation time to congestion**
22 **costs at the generation hub, correct?**

23 A. I multiplied the Ameren load hub by the
24 load L and P congestion component.

25 **Q. So my question wasn't correct. Is that**

1 what you're saying?

2 A. Well, I think you said Ameren load by
3 the Ameren --

4 Q. I said for each hour you multiplied the
5 megawatt hour of generation time times the
6 congestion costs of the generation hub, you
7 multiplied it?

8 A. Yes.

9 Q. And then you calculated the difference
10 between those hourly congestion costs even though
11 the megawatt hours were different; is that correct?

12 A. That's correct.

13 Q. Assume now that a specific hour, at a
14 specific hour the megawatt hours for load are
15 greater than the megawatt hours for generation. And
16 so the calculations can be divided into two
17 components, congestion costs between load generation
18 times megawatt hours of generation and congestion
19 costs at the load hub to a basis hub times the
20 megawatt hour between load and generation.

21 Do you agree with that?

22 A. I'm not sure that agree with that entire
23 statement.

24 Q. Okay. And how would you disagree with
25 it?

1 A. I'll have to hear it one more time.

2 Q. Okay. The calculation can be divided
3 into two components.

4 A. Okay.

5 Q. Number one congestion cost between load
6 and generation times megawatt hours of generation.
7 And then the second component is congestion cost at
8 the load hub to a basis hub times the megawatt hour
9 difference between load and generation.

10 Do you agree with those? That your
11 calculation can be divided into those two
12 components?

13 A. That's not my calculation.

14 Q. Okay. What is your calculation?

15 A. My calculation is to calculate the cost
16 of congestion that is directly attributable to
17 the -- directly related to what Ameren load has to
18 pay to MISO for their demand. And their
19 transactions with MISO. I calculate the specific
20 congestion cost related to demand. The second
21 calculation is to calculate the congestion revenue
22 that is paid to Ameren for their generation. Those
23 are all in dollars. I did not bring this down to a
24 dollar per megawatt level or look at whether the
25 megawatt hours were similar. That's not part of the

1 calculation. The end result of what I'm trying to
2 calculate and communicate is the net congestion
3 cost, which is in dollars, which is the difference
4 between those two.

5 **Q. Okay. If the basis hub has changed,**
6 **then all of the congestion costs will change; is**
7 **that correct?**

8 MR. ZOBRIST: Judge, I'm going to
9 object. He said he didn't do that, so this is, you
10 know, not relevant to his analysis. So I don't
11 understand why this question is relevant to what
12 this witness apparently did not do.

13 JUDGE BUSHMANN: What's the relevance?

14 MR. JARRETT: Well, I'm just trying to
15 determine. He said he didn't do it, but I'm, Judge,
16 just trying to determine if some of these other
17 things that would have been included in that
18 calculation, what some of the assumptions are.

19 MR. ZOBRIST: Well, I think that's not
20 relevant. If he wants to ask him why he didn't do
21 something that might be relevant.

22 MR. JARRETT: All right. I'll withdraw
23 the question.

24 **Q. Do you agree that in each hour the**
25 **minimum of Ameren Missouri generated energy presents**

1 **the Ameren Missouri generation used to serve the**
2 **Ameren Missouri load?**

3 A. The minimum Ameren load and the minimum
4 Ameren generation?

5 **Q. Correct.**

6 A. Within the model, the Ameren load is one
7 specific value in each hour. And the Ameren
8 generation that's dispatched in the MISO market,
9 may be less than or equal to or greater than that
10 value. It's within the MISO market decision not
11 within the Ameren decision.

12 **Q. So you would disagree with that**
13 **statement?**

14 A. Yes.

15 **Q. If one wanted to only measure congestion**
16 **costs from Ameren Missouri generation used to serve**
17 **the Ameren Missouri load and exclude congestion**
18 **related to purchases and sales, would you multiple**
19 **the hourly congestion cost difference between the**
20 **load and generation by the minimum of Ameren**
21 **Missouri load and generation?**

22 A. No, I'm not familiar with that method of
23 calculating that congestion cost.

24 **Q. Would it surprise that while your**
25 **calculations show slightly positive congestion costs**

1 for the base case the congestion costs from Ameren
2 Missouri generation to Ameren Missouri load are not
3 only negative, but are almost twice the magnitude
4 and absolute value from the positive congestion
5 costs in your calculation?

6 A. It does not surprise me.

7 Q. Okay. Well, would it surprise you that
8 the congestion costs for the Grain Belt Express case
9 when calculated from Ameren generation used to serve
10 Ameren load while still negative are larger in
11 absolute value than the congestion cost you
12 calculated for the Grain Belt Express case?

13 A. It does not surprise me.

14 Q. Okay. Would it also surprise you to
15 find that when calculated for Ameren generation used
16 to serve Ameren load, the congestion cost difference
17 between the Grain Belt Express case and the base
18 case are positive?

19 A. No.

20 Q. Does this result mean that since
21 congestion costs in your calculations are higher
22 than in calculations for congestion costs from
23 Ameren generation to serve Ameren load that
24 congestion costs have increased for either purchases
25 or sales?

1 A. No, it doesn't mean that directly.

2 **Q. Well, what does it mean?**

3 A. It means that relative to the MISO
4 reference price, the congestion that Ameren is
5 seeing from the Grain Belt Express goes down.

6 **Q. Okay. Now, I believe Dr. Proctor had**
7 **asked you some data requests regarding flow gates.**
8 **Do you recall those?**

9 A. Yes.

10 **Q. And you provided Dr. Proctor with three**
11 **flow gates in response to his data requests?**

12 A. Yes, I provided that information.

13 **Q. What is a flow gate?**

14 A. A flow gate is a defined transmission
15 constraint on the system by NERC or an RTO that says
16 the flow of a particular transmission line or group
17 of lines cannot exceed a certain rating either
18 without considering other losses or with
19 consideration of the loss of other lines.

20 **Q. And are there differences between the**
21 **NERC flow gates and the RTO specified flow gate?**

22 A. The RTOs adopt the NERC flow gates.
23 Sometimes, you'll see them identified as the same
24 under different numbers.

25 **Q. What does the addition of monitored**

1 **elements to NERC or RTO flow gates imply?**

2 A. It implies that you are considering
3 additional potential overloads on the system.

4 **Q. And what does the addition N minus 1**
5 **contingency event to NERC or RTO specified flow**
6 **gates imply?**

7 A. It implies that you are considering new
8 possible line failures and overloads on other lines.

9 **Q. And were the flow gates constraints at**
10 **or near the location of the Grain Belt Express**
11 **Palmyra outlet already included in either NERC or**
12 **MISO flow gates?**

13 A. Generally, there were some of those
14 constraints and some were added.

15 **Q. What does their inclusion in an already**
16 **specified flow gate indicate about potential**
17 **congestion in this area?**

18 A. It only indicates that it needs to been
19 monitored for potential overload. I'll add that
20 within the model simulation runs they were not
21 overload. They were not constrained.

22 **Q. Have you looked at historical congestion**
23 **on this flow gate to see if it is potentially a**
24 **highly congested area?**

25 A. I did not in this case because we are

1 looking at the area 2019 with a lot of new
2 transmission changes.

3 Q. Okay. And have you compared your base
4 case results with historical data to see if your
5 model is currently capturing the congestion in this
6 area?

7 A. We did not, for the same reason I just
8 stated.

9 Q. And I want to refer to pages 4 to 6 on
10 your surrebuttal.

11 A. Okay.

12 Q. And let's go to lines 3 to 5 on page 5.

13 A. On page 4?

14 Q. On page 5. Excuse me. I'm sorry.

15 A. Page 5. Okay.

16 Q. There on lines 3 and 5 of page 5 of your
17 surrebuttal testimony, you calculated 2.6 millions
18 in adjusted cost production savings Missouri for
19 Grain Belt Express compared to .5 million for MISO
20 wind alternatives located in the Minnesota, North
21 Dakota, and Iowa regions; is that correct?

22 A. I think I'm on the wrong page. Page 6?

23 Q. It's page 6. Yes. I'm sorry. Do you
24 need me to re-ask you that?

25 A. I'm trying to find the -- Is it the

1 bottom of page 6? Can you restate the page number
2 and lines?

3 Q. Let me find out real quick I might have
4 written it down wrong, I apologize.

5 A. I believe, it's on 6 or 7.

6 Q. Yeah, it is. Page 7, lines 3 to 5.

7 A. Can you restate?

8 Q. Yeah. At lines 3 to 5 on page 7 of your
9 surrebuttal testimony, you calculated 2.6 million in
10 adjusted production cost savings in Missouri for
11 Grain Belt Express compared to .48 million for MISO
12 Wind Alternatives?

13 A. Yes.

14 Q. Located in Minnesota, North Dakota, and
15 Iowa region.

16 A. That's correct.

17 Q. Are your results only for 2019?

18 A. That's correct.

19 Q. What portions of the CapX2020 project
20 were included in your model?

21 A. If they were part of the MVP portfolio,
22 they were included. I can't confirm projects
23 outside of that at the moment.

24 Q. What MISO upgrades in the Minnesota,
25 North Dakota, and Iowa regions were included in your

1 **model?**

2 A. All of the multi-valued projects, the
3 MVPs.

4 Q. Okay. And as MISO continues to upgrade
5 its system in accordance with FERC Order 1000, would
6 you expect the delivery of wind in the northwest
7 MISO region to improve?

8 A. Perhaps that will be one of their goals.

9 Q. Okay. And if that improved, would
10 congestion costs go down?

11 A. Adding transmission will make congestion
12 costs go down. But I'm not going to speculate on
13 where the transmission will be delivering whether it
14 be west to east or north to south.

15 Q. You also state that of the 2.6 million
16 in AP savings for Missouri, only 1 million goes to
17 Ameren Missouri?

18 A. Yes, I would state that as a sizable
19 portion of 2.6 million.

20 Q. Did you credit Ameren Missouri with the
21 energy from the Grain Belt Express project in your
22 calculations?

23 A. Within that calculations, I don't
24 separate exactly who receives the energy it flows
25 into the system.

1 **Q. So you did not credit Ameren Missouri**
2 **for that?**

3 A. In my calculation, I don't credit any
4 utility as specifically receiving Grain Belt energy,
5 it's received by the utilities that the model says
6 it receives.

7 **Q. And that includes Ameren Missouri?**

8 A. Yes, Ameren Missouri accepted some of
9 the power.

10 **Q. That wasn't my question. It was the**
11 **credit. Did you credit them with the energy?**

12 A. I didn't use the Grain Belt Energy
13 specifically credited to any calculation.

14 **Q. Okay. I think you've answered it.**

15 A. Yeah.

16 **Q. If so, well, you didn't. If not, who**
17 **was credited for the energy from the Grain Belt**
18 **Express converter station in Missouri?**

19 A. Again, I did not credit. My calculation
20 did not include taking Grain Belt energy and
21 assigning that to specific utilities. So I did not
22 credit any utility within the model results within
23 each hour the dispatch would say which utilities in
24 that particular hour received energy from Grain
25 Belt, but did not dictate that outside of the

1 simulation or make an assumption.

2 **Q. All right. So does that mean that the**
3 **adjusted production cost savings calculated for MISO**
4 **did not go to Ameren Missouri?**

5 MR. ZOBRIST: Judge, I think he's asked
6 that three times. I object. It's compound. I'm
7 sorry. It's cumulative.

8 JUDGE BUSHMANN: Mr. Jarrett, your
9 response?

10 MR. JARRETT: That's a different
11 question, I believe, than what I've asked before.

12 JUDGE BUSHMANN: Okay. Well, proceed.
13 Overruled.

14 **Q. Let me ask it this way. I'll rephrase**
15 **it.**

16 A. Okay.

17 **Q. How much of the adjusted production cost**
18 **savings calculated for MISO went to Ameren Missouri?**

19 A. Well, I believe we stated that was
20 1 million in 2019, annual adjusted production cost
21 savings.

22 **Q. I apologize, I probably did not ask that**
23 **question very well.**

24 MR. JARRETT: That's all the questions I
25 have. Thank you.

1 THE WITNESS: Okay.

2 JUDGE BUSHMANN: Let me just check. Mr.
3 Agathen, are you going to have any questions?

4 MR. AGATHEN: I will, your Honor.

5 JUDGE BUSHMANN: And then I think we're
6 going to have to stop at this point for tonight and
7 we can pick up at this point in the morning rather
8 than interrupt any of your questioning. So we will
9 stand in recess until 8:30 tomorrow morning.

10 (WHEREUPON the hearing was recessed at
11 6:06 p.m.)

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CERTIFICATE OF REPORTER

I, Megan E. Granda, Certified Court Reporter within and for the State of Missouri, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; the testimony of said witness was taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken, and further that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

Megan Granda, CCR, RPR

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