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BEFORE THE PUBLIC SERVICE COMMISSION

STATE OF MISSOURI

Evidentiary Hearing
VOLUME IX

Tuesday, June 6, 2023
8:30 a.m. - 4:51 p.m.

Missouri Public Service Commission
200 Madison Street
Governor Office Building Room 310
Jefferson City, MO 65101
and WebEx

In the Matter of the Application)
of Grain Belt Express LLC for an)
Amendment to its Certificate of)
Convenience and Necessity)
Authorizing it to Construct, Own,) File No. EA-2023-0017
Operate, Control, Manage, and)
Maintain a High Voltage, Direct)
Current Transmission Line and)
Associated Converter Station)

NANCY DIPPELL, Presiding
CHIEF REGULATORY LAW JUDGE

SCOTT T. RUPP, Chairman
MAIDA J. COLEMAN
JASON R. HOLSMAN
GLEN KOLKMEYER
DR. KAYLA HAHN,

COMMISSIONERS

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1 The following proceedings began at 8:30 a.m.:

2 JUDGE DIPPELL: Let's go ahead then and go
3 back on the record. Good morning. This is Tuesday,
4 June 6, and we are here to resume our Grain Belt Express
5 hearing. We will ask Mr. Repsher to go ahead and come
6 back up to the stand.

7 And today's schedule we will try to take a
8 break around 10:00 and then we will take our lunch break
9 a little early just a little before 11:30. And we also
10 have one Staff witness, Mr. Cunigan, who can only appear
11 today. So we will be taking him out of order this
12 afternoon, make sure that we get him in.

13 Are there any other preliminary matters that
14 came up overnight? All right. Are you ready to resume
15 cross-examination?

16 MR. AGATHEN: Yes, Your Honor.

17 JUDGE DIPPELL: All right. Go right ahead.

18 MR. AGATHEN: Mr. Repsher, good morning.

19 THE WITNESS: Good morning.

20 MARK REPSHER,
21 having previously been sworn, was examined and testified
22 as follows:

23 CONTINUED CROSS-EXAMINATION

24 BY MR. AGATHEN:

25 Q. I think we left off yesterday with you saying

1 you weren't familiar with the testimony of Mr. Petti?

2 A. Yeah. After having a second to think on it,
3 the reason I was confused is because of the adoption by
4 the new witness. So I haven't read through that report,
5 but I am loosely familiar with some of it. So I can try
6 to answer some questions if you have any.

7 JUDGE DIPPELL: Mr. Repsher, will you make
8 sure that you're toward the mike.

9 THE WITNESS: Yeah, I'm sorry.

10 JUDGE DIPPELL: Thank you.

11 MR. SCHULTE: For the clarity of the record,
12 Mr. Repsher is not the witness who adopted Anthony
13 Petti's testimony. That would be Rob Baker. Just want
14 to make that note for the record.

15 JUDGE DIPPELL: Go ahead, Mr. Agathen.

16 BY MR. AGATHEN:

17 Q. In any event, Mr. Petti in his analysis used a
18 30-year life span for the Grain Belt Project, did he
19 not?

20 A. I do not recall reading that, but I'll accept
21 your premise.

22 Q. In your study, you assumed a life span of 40
23 years for the Grain Belt Project, correct?

24 A. Yes, sir, that's correct.

25 Q. And the way your analysis works, the longer

1 the life span you assume for the Project the greater
2 will be the supposed savings; is that correct?

3 A. Generally speaking, yes, the longer life span
4 that you assume the more benefits that will accrue to
5 consumers.

6 Q. And if you had measured the savings in your
7 study over a 30-year period instead of 40-year period,
8 the supposed energy and capacity savings would be
9 reduced from your figures of 17.6 billion to about 11.6
10 billion; is that correct? And you might -- Let me ask
11 you, do you have a copy of your answers to our data
12 requests?

13 A. I do. If you could point me to the data
14 request that you're talking about, I'd be happy to turn
15 to it.

16 Q. MR5.

17 A. Yeah, one second. Yes, sir, I see that.

18 Q. And the supposed energy and capacity savings,
19 as you say there, would be reduced from your figure of
20 17.6 billion to about 11.6 billion, correct?

21 A. Yes. My recollection is we did that kind of
22 as a top-down analysis and it's really kind of a pro
23 rata figure of, you know, about 75 percent of the, you
24 know, projected savings.

25 Q. If you had used the 30-year life of the

1 Project, the supposed emission savings would be reduced
2 from your figure of 7.6 billion to about 5.5 billion; is
3 that correct?

4 A. Did I note that in one of my responses? Your
5 math sounds correct. I'm not sure if I actually said
6 that anywhere.

7 Q. Same Data Request MR5.

8 A. Yeah, I accept that.

9 Q. And neither of those 30-year savings figures
10 are reduced to their present values, are they?

11 A. Yeah, and to clarify that point, because I
12 know that was a question yesterday, my understanding is
13 the Commission has not ever put forth a procedural item
14 with regard to whether or not numbers should be
15 presented a net present value point of view or from an
16 undiscounted point of view. So we presented it
17 undiscounted point of view.

18 Q. If you had used present values for those
19 figures, your numbers would have been reduced
20 substantially, would they not?

21 A. They would be lower depending on the discount
22 rate that one assumes.

23 Q. A reasonable discount rate would have reduced
24 your savings figures substantially, would they not?

25 A. I'm not sure what you mean by substantially.

1 But yes, they would be lower.

2 Q. Something else not included in your modeling
3 is the billions of dollars which retail customers will
4 ultimately pay for the Grain Belt Project; is that
5 correct?

6 A. I disagree with that. I mean, the numbers we
7 presented, you're correct, are gross meaning that they
8 are the gross total benefits without the cost of the
9 line. But I believe within my testimony I also note
10 that the all-in cost for the transmission line is
11 something on the order of I believe it was \$5.7 billion
12 including expected network upgrade costs, and I compared
13 the gross benefits of 17.6 billion I believe it was to
14 the 5.7 billion in costs for the line.

15 Q. But as you note at page 6, footnote 2 of your
16 direct testimony, your savings values noted here exclude
17 the costs of the Project; is that correct?

18 A. Give me one second to turn to that page. You
19 said it was page 6?

20 Q. Page 6, footnote 2.

21 A. Yeah. So as I was just saying, the total
22 savings of the line for Missouri residents, and to be
23 clear because I know this was a commentary yesterday,
24 these savings include the entirety of Missouri. So the
25 MISO portion of Missouri, the AECI portion of Missouri

1 and the SPP portion of Missouri. Those are the total
2 savings. I would also say that there are additional
3 savings that accrue to ratepayers in states like
4 Illinois, Indiana, et cetera, but those are excluded
5 from this analysis. So those gross savings are 17.6
6 billion again for just the residents here in Missouri
7 and then you compare those to the cost for the entire
8 line. So that would be not just Phase I for Missouri
9 but Phase I and Phase II, which again gets you all the
10 way to Indiana, is \$5.6 billion. So just looking at
11 those savings for Missouri, which again exclude those
12 other benefits and including the entire cost of the
13 line, you still have twelve-ish billion in net benefits
14 for ratepayers even if Missouri residents had to pay for
15 100 percent of the line, which I do not believe is the
16 intention of Invenergy.

17 Q. Let me ask you this. Don't you say in
18 footnote 2 there at page 6 savings values noted here
19 exclude the cost of the Project. As noted subsequently
20 in my testimony, the Project is still likely to induce
21 material ratepayer savings even if one were to include
22 the associated costs?

23 A. Yes, which I don't think is different than
24 what I just said. I believe further in my testimony,
25 I'm not sure what page it was, is where I do point out

1 that the 17.6 are the gross benefits for Missouri
2 residents and then you compare that to the 5.6 I believe
3 billion in cost for the line.

4 Q. On a different subject. Are you aware that in
5 the last Grain Belt case here at the Commission Grain
6 Belt witness David Berry compared the Project's
7 delivered cost of wind energy to Missouri to the cost of
8 other energy alternatives, including Missouri wind
9 energy, Missouri Utilities scale solar energy and
10 combined cycle gas generation?

11 A. While I was not part of that proceeding, I am
12 -- I was briefed on that testimony and I believe I
13 reviewed it a few weeks ago. So I am familiar at a high
14 level with that testimony.

15 Q. Are you aware that the Commission found that a
16 levelized cost of energy analysis is the best financial
17 technique to compare different energy generation
18 sources?

19 A. I do recall Staff saying that in that
20 proceeding.

21 Q. Did you compare the delivered cost to Missouri
22 of energy for the Grain Belt Project to the delivered
23 cost to Missouri wind generation?

24 A. Not directly. What I did compare though were
25 the capacity factors of wind and solar resources in

1 Missouri versus Kansas, and I'll explain that a little
2 bit. I believe in my report which was filed as Exhibit
3 MR-1 -- no, 2, excuse me. On page -- Well, it's the
4 start of Section 3, page 12, Figure 3-1, I compare the
5 capacity factor of what's called GBX wind, which is
6 Kansas wind, GBX solar, which is Kansas solar, and then
7 compared that to in-state wind and solar, which are from
8 Missouri resources. And what you can see in that figure
9 is that the capacity factors of wind and solar in Kansas
10 are quite a bit higher than what you expect within the
11 state.

12 So stepping back, when you think about a
13 levelized cost of energy analysis, there are really two
14 components to the analysis. The first would be the
15 all-in what I'll call capital costs. So that would
16 include the construction costs, the land acquisition
17 costs, the cost of, you know, employees, et cetera, to
18 build the facility. And when you look at the states of
19 Missouri and Kansas, in the work that I've done, you
20 know, over the past two decades, there really aren't
21 significant differences with regard to construction
22 costs for generation facilities between the two states.
23 So if we're talking about gross figures, there's not a
24 lot of difference in terms of those total capital costs.

25 Now, the second part of a levelized cost of

1 energy analysis is effectively the denominator that you
2 use. You can do that in different ways, but what we're
3 talking about here, and I believe what Staff and the
4 Commission spoke about in the previous proceeding, was a
5 levelized cost of energy figure on what's called a
6 dollar per MW hour basis. So the denominator
7 effectively being how much generation is a facility
8 producing.

9 If you take -- If we go back to our arithmetic
10 classes and say that the numerator is the same between
11 the two resources, between a resource whether it's in
12 Kansas or Missouri, the numerator is the same. Where
13 you get to a lower levelized cost of energy analysis
14 between the two is the fact that you have a larger
15 denominator, so more generation from resources coming in
16 Kansas than you do in Missouri which is what produces
17 the lower levelized cost for resources in Kansas versus
18 Missouri. So in that respect we did look at it because
19 we're looking at the difference in capacity factors
20 between the two resources.

21 Q. I think -- Well, if you'd go to Section 3.1 of
22 your Schedule MR-2 at page 12. I think this is what you
23 were getting at. You compare the capacity factors of
24 several Grain Belt scenarios with the capacity factors
25 of Missouri wind and Missouri solar generation, correct?

1 A. Yes, sir.

2 Q. But those comparisons don't factor in the cost
3 for the transmission, do they?

4 A. No. These figures do not account for the cost
5 of the transmission line itself.

6 Q. So it's not an all-in cost for the two
7 different scenarios?

8 A. No, sir. It doesn't include the cost for the
9 transmission line.

10 Q. Did you anywhere in your analysis compare the
11 delivered cost of energy from the Grain Belt Project to
12 the delivered cost of MISO wind to Missouri?

13 A. Only indirectly in so much that we, as we were
14 talking about yesterday, we used the Aurora production
15 cost model to analyze the impact on different sorts of
16 resources as they impact things like power prices and
17 ultimately their impact on ratepayers. So with regard
18 to that, what you're looking at without the line, so a
19 scenario where Grain Belt Express does not exist, then
20 effectively the state of Missouri is relying on in-state
21 resources and based on that analysis what it shows is
22 that the overall net -- the overall benefit to
23 ratepayers is greater in terms of savings by having the
24 line than without.

25 Q. Do anywhere in your analysis actually show the

1 costs of delivered energy from the Grain Belt Project
2 compared to the delivered cost of MISO wind to Missouri?

3 A. No, sir, I don't.

4 Q. Did you anywhere in your analysis compare the
5 delivered cost of energy from the Grain Belt Project to
6 the delivered cost of Missouri utility scale solar
7 energy?

8 A. No, I did not.

9 Q. A direct cost comparison of the delivered cost
10 of energy from the Grain Belt Project to the delivered
11 cost of Missouri utility scale solar energy, and the
12 answer is no?

13 A. Correct, the answer is no.

14 Q. Thank you. Did you compare the delivered cost
15 of energy from the Grain Belt Project to the cost of
16 combined cycle generation?

17 A. I did not.

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

19 JUDGE DIPPELL: Thank you. Is there
20 cross-examination from Mr. Hollander?

21 MR. HOLLANDER: No, Your Honor, thank you.

22 JUDGE DIPPELL: Ms. Stemme.

23 MS. STEMME: No.

24 JUDGE DIPPELL: Associated Industries.

25 MR. ELLINGER: Just a couple, Judge, please.

1

CROSS-EXAMINATION

2

BY MR. ELLINGER:

3

Q. Morning, Mr. Repsher. My name is Marc

4

Ellinger.

5

A. Morning.

6

Q. Do you have your surrebuttal in front of you?

7

That's Exhibit 4.

8

A. Yes, sir, I do.

9

Q. Could you turn to page 13, starting with line

10

10 there's a question that's been propounded to you and

11

some explanations about some of the costs and benefits.

12

I think Mr. Agathen was walking you through some of that

13

was in your direct testimony also.

14

A. You said page 13?

15

Q. Page 13, yes, sir.

16

A. Yes, I'm here.

17

Q. And I guess I'm a little -- In the course of

18

that cross-examination in reading your testimony, I got

19

a little confused here. So if you don't mind me. You

20

talk about 17.6 billion in ratepayer benefits and

21

associated costs of 5.7 billion. Do you see where I'm

22

at on line 19 and 20?

23

A. Yeah, I do.

24

Q. Could you explain how you came up with that

25

number of 17.6 billion in savings?

1 A. Sure, happy to. So again as we discussed
2 yesterday, we use a series of models. Again, these are
3 the same models we use across the industry for any sort
4 of analysis related to financial projections. There
5 really are two main components here that we're focused
6 on that consumers need to pay for. The first would be
7 what are called energy costs. So those would be the
8 costs when you turn on your lights in your house or
9 stove or whatnot and what you're charged for your actual
10 consumption of energy on an hourly or minute-by-minute
11 basis. And so for that portion of the analysis, which
12 encompasses really most of the benefit, is we took a
13 look at the change in energy prices between an analysis
14 with the line included and without the line included.
15 Basically did math where we basically looked at the
16 difference between power prices and then importantly
17 looked at the actual load profile for residents and
18 businesses in Missouri for each of the service
19 territories within the state and then did basically
20 mathematic -- or multiplication where you look at the
21 difference between the power prices and the load and
22 that comes up with the total dollar figure that again we
23 looked at over a 40-year period.

24 The second piece, which is a much more small
25 piece but it's important because for any analysis to be

1 rigorous it needs to include it, would be what are
2 called capacity costs. So capacity costs are
3 effectively what consumers pay for for I'll say
4 reliability. So making sure that you have enough
5 capacity on the system for hot days or winter storms or
6 what-have-you. And so we also looked at the change in
7 capacity prices between the two runs, or the two
8 analyses, excuse me, and then similarly did math where
9 you look at the difference in prices times what would be
10 called the peak demand of consumers in each of the
11 service territories similarly to come up with those
12 figures and then we just added together the energy and
13 capacity savings to come up with the \$17.6 billion.

14 Q. Do you know how much, I mean, you mentioned
15 that energy costs were the largest amount and capacity
16 costs were a much smaller number, do you happen to know
17 what percentage or what numbers those would amount to?

18 A. Based off memory, probably -- Based off
19 memory, I believe it was something like 95 percent of
20 the benefit is from energy. 5 percent is from capacity.
21 So it's really by and large an energy argument, not a
22 capacity one.

23 Q. And then you also talk about in that same
24 couple lines of your testimony associated costs. Could
25 you explain how you went about offsetting costs of the

1 Project and associated generation costs?

2 A. Yes. So the associated costs that I'm talking
3 about here are the direct capital expenditures related
4 to the Grain Belt Express transmission line. So those
5 numbers ultimately came from the Company Invenergy, but
6 my recollection is that they include, again these are
7 kind of rough numbers but in wanting to provide an
8 answer here, I believe it was something like 4.7 or 4.8
9 billion is the direct capital costs and there's another
10 whatever the remainder is for expected network upgrade
11 costs. So those would be the costs that the ISOs would
12 charge Invenergy to upgrade other parts of the system to
13 ensure reliability.

14 Q. And then you just -- Would you net those
15 together to come up with savings or how would you
16 prepare for what the ultimate savings is if you account
17 for the costs?

18 A. Yeah, ultimately that in a very high level way
19 that would be what you would do to get a net savings.
20 You would just take the 17.6 billion minus the 5.7
21 billion. I would like to point out though, and I think
22 one thing I'm pretty clear if you go up two rows to line
23 18 of that same page, these are all direct benefits to
24 Missouri ratepayers and ones that I think are, you know,
25 they'll directly show up on consumers' electricity bills

1 in terms of savings. In addition to that, I point out
2 that we also looked at what we'll call environmental
3 savings or societal savings, and those are an additional
4 \$7.6 billion. So the reason we didn't include that in
5 the 17.6 billion is because I think there are debates on
6 certainly what is the value of reducing carbon emissions
7 or reducing SO₂, sulfur dioxide emissions, et cetera.
8 But if you kind of used generally accepted principles
9 with regard to the value of reducing those emissions
10 which are put forth by the U.S. EPA, you know, a
11 reasonable number would be an additional \$7.6 billion in
12 savings that could be assumed as well. And I think as
13 Dr. Poudel, I hope I'm pronouncing that correctly, as he
14 says I think one key point is how do you distribute that
15 economic welfare for those emission savings, which is
16 not something we tried to quantify or explain within
17 this testimony.

18 Q. And lastly, your original direct testimony was
19 filed in August of 2022, based upon the study you had
20 done presumably before then, right?

21 A. Yes, sir, that's correct.

22 Q. Does that study need to be updated or do you
23 think it's currently accurate?

24 A. I think within a reasonable degree of like a
25 reasonable degree of uncertainty, it directionally would

1 not change. I think the major things that have really
2 changed since this analysis, I'm trying to go back to
3 remember, so the major things would be really the
4 passage of the Inflation Reduction Act at the end of
5 last year. If anything, that has just made renewables
6 more economic with increasing tax savings that can be
7 utilized.

8 I would say also that one of the benefits of
9 the Inflation Reduction Act is, without getting into the
10 minutia, is it allows the transferability of tax
11 credits. The reason that I bring that up is that for
12 potential offtakers that have been discussed but even
13 just investor-owned utilities within the state here like
14 Ameren, one of the benefits is because of the
15 transferability of tax credits now they have an easier
16 time leveraging those benefits whereas previously
17 because it's a regulated entity, and I'm not a tax
18 expert, but it's easier now for them to leverage those
19 tax credits and pass those benefits on to ratepayers.
20 So I would say it potentially makes them more likely to
21 want to enter into contracts for energy over the line.

22 Q. So is it correct then that if you were to
23 update the study those changes would actually generate
24 more savings?

25 A. Yeah, and I think the other thing that would

1 generate more savings is what you have really seen over
2 the past really six to twelve months is, and I think you
3 just saw this NERC came out with an assessment where
4 they were noting reliability challenges that may be
5 coming up on the grid, and a lot of that is because of
6 increasing forecasted demand from electrification. So
7 whether we're talking about electric vehicles or new
8 data centers being sited, et cetera, all of that is
9 increasing load. Generally speaking, the more load
10 that's on the system the more benefit you would
11 experience by putting in a transmission line and
12 associated renewable energy like the one discussed here.

13 MR. ELLINGER: No further questions. Thank
14 you, Mr. Repsher.

15 JUDGE DIPPELL: Thank you. Mr. Haden, I think
16 I skipped you again, didn't I. I apologize. Did the Ag
17 Associations have any cross-examination?

18 MR. HADEN: Just a few questions. Excuse me.
19 I'm a little froggy this morning.

20 THE WITNESS: Allergy season.

21 MR. HADEN: Yeah.

22 CROSS-EXAMINATION

23 BY MR. HADEN:

24 Q. So I want to go back just quickly. I know you
25 worked it over pretty hard yesterday. The assumption

1 about carbon tax, you had an assumption built in that
2 there would be carbon taxes from 2027 going forward,
3 correct?

4 A. That was the assumption we made, correct.

5 Q. I guess why did you make that assumption?

6 A. Yeah, I think as I noted yesterday but I
7 probably didn't explain very well. So apologies. When
8 you look at resource planning for utilities across the
9 U.S. but I just want to focus on the Midwest here, so
10 we're talking about folks like Ameren or Evergy or AEP
11 or Duke or any of them, they do a series of analyses
12 when they look on a go-forward basis with regard to what
13 will be in the best interest of ratepayers, what will be
14 the most prudent risk adjusted decisions they can make
15 when deciding what sort of resources that they're going
16 to put on the system that, you know, ratepayers will
17 have to pay for for the next 30, 40 plus years.

18 So when they do those analyses, the vast
19 majority of utilities in the region assume a carbon
20 price, or what they call a carbon shadow price, when
21 they're doing these analyses. Now, does that mean that
22 they assume that the federal government is going to come
23 out with a carbon tax or a federal cap and trade program
24 in the future, not necessarily. What they're trying to
25 do is say we believe that we're living in a carbon

1 constrained future and in the future there will be
2 restrictions on the amount of carbon that we can emit.

3 Q. I'm sorry. I don't want to interrupt you.
4 Let me stop you there because I've got a question about
5 how you're tying it together. For those utilities,
6 they're buyers --

7 MR. SCHULTE: I think the question was very
8 open ended.

9 MR. HADEN: I'm going to amend my question
10 then. I'm not asking for a long narrative generally and
11 especially as it relates to something that's not --
12 we're not asking about --

13 THE STENOGRAPHER: I'm sorry?

14 JUDGE DIPPELL: One at a time, please.

15 MR. HADEN: Just a second, Mr. Schulte. I'm
16 asking about this is a company that's going to generate
17 power and it's built into the assumption. We've now
18 heard about three minutes of testimony about buyers of
19 energy which I understand why they would build that into
20 a conservative estimate, but here that number has
21 benefited the Company because the assumption includes
22 more profitability. So that's really what's relevant to
23 the testimony we're asking here. I don't really care
24 what Duke does. I care about the seller. So I don't
25 think it's a responsive answer at this point even to the

1 question I asked relative to the analysis he's done for
2 you. That's my response.

3 JUDGE DIPPELL: I will allow. The question
4 can be -- or the answer can be clarified on direct and
5 I'll let Mr. Haden amend his question and ask the
6 witness again.

7 MR. HADEN: Mr. Repsher, I'm really not trying
8 to be rude. We all want to get through this and I know
9 you do too.

10 BY MR. HADEN:

11 Q. I understand why modeling for a buyer might
12 include a conservative estimate that says hey, in the
13 future we think we're going to have a carbon tax, that's
14 going to hurt our profitability or we're going to have
15 to find alternate sources. Here though as a seller why
16 would you build that assumption in because, correct me
17 if I'm wrong, but by your analysis that actually
18 increases the profitability of this project because it's
19 going to push buyers to have to buy renewables, correct?

20 A. No, I disagree with that.

21 Q. Okay. Tell me why.

22 A. Okay. Let me rewind. The point of our
23 analysis is to -- it's not to take a view from the
24 seller's point of view or the buyer's point of view.
25 What we're trying to do here is effectively look at it

1 as any prudent person would do, as any, from a prudency
2 basis, how should someone think about the future in a
3 carbon constrained world. As I was saying, and I'll
4 take ten seconds to finish this, when utilities look at
5 their choices, which we're trying to put it in the shoes
6 of how they're going to think about whether they want to
7 purchase from the line or not, we're trying to adopt
8 assumptions that they would assume within their internal
9 analysis. So I'll stop there.

10 Q. Okay. But the converse of that would be,
11 though?

12 A. Yeah, which I was going to get to.

13 Q. Okay.

14 A. Now, does including a carbon assumption, does
15 that create a, quote, unquote, better environment for
16 the seller, which again using your words, not mine, the
17 answer is no, because what we're doing again as I
18 explained yesterday, we're doing what we call a with and
19 without analysis, sometimes people call it a factual,
20 counter factual analysis or a one-factor analysis. So
21 what that means is we're including a world that has all
22 of the assumptions we talked about, including carbon, so
23 that's the world. The only difference that we make
24 between world one that doesn't have the transmission
25 line and world two that has a transmission line is

1 putting the transmission line there. So that world that
2 doesn't have the transmission line has carbon. There's
3 carbon in the world with the line. We're just
4 subtracting the two. So we're not creating a world
5 where all of a sudden this line goes into service and
6 now there's magically a carbon price and that increases
7 the savings that utilities can have. That carbon
8 constrained future in the way that we model it is both
9 worlds. So when you're doing the math and you're
10 subtracting those, you basically are subtracting the
11 same carbon impact from both cases.

12 Q. Is it neutral to your analysis then whether
13 you include that assumption or not?

14 A. It's not neutral but it's not binary.

15 Q. Then which way does it cut? Here's the reason
16 I'm asking. If it doesn't matter if it truly just
17 zeroes out in the math, then it doesn't really matter if
18 you include the assumption, right, but I think you just
19 said that it does matter if you include the assumption.
20 So why is it there?

21 A. It's a complicated question. And I know you
22 want me to be quick. So I'll try to be quick here. One
23 of the impacts by including a carbon assumption, again
24 in both worlds, is that it makes it more challenging for
25 fossil generators to operate and induces more renewables

1 to enter the system. Again, we're not even talking
2 about the lines. It makes renewables more economic. So
3 what does that do. Renewables in and of themselves,
4 which again I think was consistent from one of the Staff
5 witnesses, is that as you include more renewables in the
6 supply stack, all else equal you're reducing power
7 prices. So we're actually creating in some ways a more
8 conservative power price outcome by including more
9 renewables in our analysis than would otherwise be there
10 without that carbon assumption.

11 So again, to answer your question, I can't say
12 definitively which way it would move because yes, from a
13 single -- if we remove carbon, all else equal would
14 power prices be lower, yes, they'd be lower in both
15 cases, but the counter to that is we also would build a
16 lot less renewables. So because of that power prices
17 would go up. So where is it? It's somewhere in the
18 middle. I don't know where it is because I haven't done
19 the analysis. It's not an easy 101 one-for-one analysis
20 to do.

21 Q. I want to talk about the basis of the
22 assumptions starting in 2027. That would lie in the
23 next presidential cycle, correct?

24 A. Sure, I'll accept that.

25 Q. Assuming that elections fall in a normal

1 schedule.

2 A. Assuming we still have democracy.

3 Q. So that being the case, essentially -- you
4 would agree with me that that would, first of all,
5 presuppose, it almost presupposes politically you'd have
6 to have a Democrat win the next election, correct?

7 MR. SCHULTE: Objection. This is assuming
8 facts not in evidence.

9 MR. HADEN: He has made assumptions in his
10 analysis. I'm asking about his assumptions.

11 THE STENOGRAPHER: Wait a second.

12 JUDGE DIPPELL: One at a time, please.

13 MR. HADEN: If I may. If somebody is going to
14 come in here and say I built assumptions into my
15 analysis and then I'm going to ask about these
16 assumptions and say well, that assumes facts not in
17 evidence, it's the very nature of what he's here to
18 testify about.

19 MR. SCHULTE: No, I'm sorry.

20 JUDGE DIPPELL: Mr. Haden.

21 MR. HADEN: Let me finish mine and I'll let
22 you finish yours. It necessarily assumes facts that
23 cannot be in evidence because it's about the future. So
24 it's a fair question. It's not a fair objection to that
25 sort of discussion with an expert about future

1 assumptions. They necessarily assume facts not in
2 evidence. We've assumed a fact not in evidence from his
3 testimony in the other way that in 2027 we'll have
4 carbon tax. Obviously the fact has been stated
5 yesterday by all of us that nobody knows the future.
6 That's the nature of modeling. So it's a fair question.

7 JUDGE DIPPELL: Mr. Schulte.

8 MR. SCHULTE: Yes. My objection is based on
9 the specific question that Mr. Haden asked which said
10 you are assuming that you know the result of the
11 election, and what Mr. Repsher has testified to is that
12 the carbon tax assumption is not based on an actual
13 carbon tax regime passed by the federal government.
14 What he has testified to is that there is a carbon
15 constrained future assumed regardless of whether the
16 federal government passes a specific carbon tax. And so
17 by building into his question a statement that
18 Mr. Repsher is assuming he knows the result of an
19 election assumes a fact not in evidence.

20 MR. HADEN: Okay. First of all, I'm building
21 my foundation on my questions, not necessarily on
22 questions that were asked before, although I know those
23 statements are on the record. And I think that it is
24 fair to ask under what scenario the federal government
25 would possibly pass a carbon tax by 2027. I know

1 there's some testimony about that yesterday, but that
2 was from some other lawyer sitting next to me asking
3 those questions. This is my time to have an examination
4 of the witness and it's a fair question. If he
5 disagrees with me, he's free to answer however he wants
6 and thinks that my assumption that I've asked him about
7 is wrong, he can explain to me why that's wrong. It's
8 not a fair objection though.

9 JUDGE DIPPELL: I think that the question was
10 that the witness -- or that there had to be a Democrat
11 in office. That was the question.

12 MR. HADEN: What I asked -- What I think what
13 I'm asking is you would have to assume that a Democrat
14 would be the next president to even have a chance to
15 have a carbon tax passed; is that correct? If he thinks
16 that's not correct, he can tell me what he thinks I'm
17 not right.

18 JUDGE DIPPELL: I'll let him answer that
19 question. I don't believe that was exactly the
20 question.

21 MR. HADEN: I'm sorry. That would be my
22 rephrase I guess to at least try to move this along
23 relative to the objection.

24 JUDGE DIPPELL: You may rephrase your
25 question.

1 BY MR. HADEN:

2 Q. So my rephrase is -- Let's just back up since
3 this is apparently an objectionable area we're going to
4 ask about. I'm trying to do this quick, but we might
5 have to do it slow.

6 A. Sure.

7 Q. The 2027 carbon tax and all the carbon tax
8 going forward that you have built into your assumptions,
9 are you assuming that would be a federally imposed
10 regime, a globally imposed regime, a state level regime?
11 What is the assumption there generally built around?

12 A. Yeah, and again I want to move this forward as
13 well. It's not based on, I'm making really no
14 assumption there. I think what -- So there are many
15 ways that it could happen. I'll explain that briefly.

16 Certainly one way as you point out would be
17 from a Congressional initiative with the president
18 signing that into law. I would agree, and this has been
19 my view for a long time, that it's next to impossible to
20 get anything done in Congress these days, so the
21 likelihood of having a federal carbon program move
22 through Congress is limited. However, there are other
23 avenues by which it can happen. The most reasonable one
24 that one would think through is the U.S. Environmental
25 Protection Agency is also continuing to move through

1 different avenues to control carbon prices -- or carbon
2 emissions, excuse me. I think as we all know, there
3 have been fits and starts to that probably starting with
4 the Obama administration. But again, the Environmental
5 Protection Agency has moved forward with preliminary
6 plans for ways to limit carbon emissions. In
7 addition to that, you could certainly have state level
8 or regional programs, but again I'm not taking a
9 specific view on the likelihood of those happening.

10 Q. Do you know of any such proposed plan in
11 Missouri to have a Missouri level carbon tax?

12 A. I am not aware of any.

13 Q. Do you know of any such proposed program in
14 Kansas?

15 A. I'm not aware, no.

16 Q. Do you have any reason to believe that the
17 passage of such a program is likely in either of those
18 states between now and 2027?

19 A. As I said yesterday, the future is unknown,
20 but I'm unaware of anything currently moving through the
21 legislatures in those states that would be moving in
22 that direction.

23 Q. Do you know of any such proposed program in
24 Indiana or Illinois at this point?

25 A. Yeah. Illinois, last year they passed the

1 Climate and Equitable Jobs Act, I always get the
2 acronym, CEJA, C-E-J-A. And that was passed by their
3 legislature and signed into law by Governor Pritzker,
4 whereas that is severely limiting carbon emissions
5 starting in -- well, the first -- it's already started
6 but the major regulation goes into effect starting in
7 2030, which will require the shutdown of most of the
8 natural gas-fired fleet within the state at that time
9 frame.

10 Q. Okay. That's 2030, not 2027, correct?

11 A. Well, not exactly. All of the natural
12 gas-fired facilities within the state as of the
13 beginning of this year have to limit their operations
14 based off of historical operations and then those get
15 further limited in 2030.

16 Q. Do you know of any such program in Illinois?

17 A. I was just talking about Illinois.

18 Q. I'm sorry. Indiana. Sorry. Next state over.

19 A. I am not aware of anything in Indiana.

20 Q. Okay. Your assumptions -- You talked about
21 the Illinois program. Is the assumption you've built
22 in, is it just for the Illinois program or would it be
23 for a broader cap and trade regime?

24 A. It would be for a carbon regime that covers
25 all generators within the U.S.

1 Q. Okay. And so this is what I'm asking, because
2 obviously a model is built on the strength of its
3 assumptions in part, correct; you would agree with that?

4 A. Yeah, it is built on assumptions, correct.

5 Q. Okay. If we build a model on me making my old
6 high school wrestling weight, it's not going to happen.
7 That would not be a good assumption I can tell you.
8 That's what I'm trying to get to the bottom of. 2027
9 frankly seems aggressive as an assumption for us to have
10 a cap and trade program in place nationally. Even if
11 EPA did it, that would be litigated almost certainly,
12 correct?

13 A. More than likely.

14 Q. It probably wouldn't be litigated to fruition
15 by -- or to completion by 2027, would it?

16 A. I'm not a lawyer, but yeah, it's unlikely it
17 would.

18 Q. Have you followed at all the developments in
19 terms of what's going on with like the Chevron Doctrine
20 of what the Waters of the U.S. case that the EPA just
21 lost?

22 A. I've been meaning to read that article, but I
23 haven't got around to it yet, but I am aware of the
24 ruling but I don't know exactly what it entailed.

25 Q. I read it twice in a week. It is riveting let

1 me assure you.

2 A. I'll take a look at that.

3 Q. That's the kind of thing though where the
4 courts have turned them back even on their discretion,
5 correct?

6 A. My general recollection is that, yeah,
7 something, again I haven't read the article, has limited
8 their ability in some way, yes.

9 Q. But you would stand today on the assumption in
10 the model that there would be a cap and trade system
11 that would dynamically affect your overall conclusion by
12 2027?

13 MR. SCHULTE: Objection. It misstates the
14 previous testimony as we've been over many times. The
15 testimony does not -- the model does not assume specific
16 federal action in order to assume a carbon constrained
17 future.

18 MR. HADEN: I didn't say I assumed federal
19 action. I said it assumes a cap and trade carbon
20 program, I believe, but that's what I'm asking about.

21 MR. SCHULTE: Again, it still misstates the
22 evidence because the testimony which we've been over
23 many times is that it does not assume specific
24 government action federal or state.

25 MR. HADEN: Okay. But it does assume, I think

1 he said multiple times, a carbon tax program being in
2 place from 2027 forward and he said that does make a
3 difference in the model. He may not know exactly where
4 the number is, but that's what I'm trying to get to the
5 bottom of. I don't understand why there's such a push.
6 You're going to present an expert and then try to
7 constrain his testimony only to what you want to hear.
8 It's a fair question as to how that affects the model.
9 If we're to believe the model, he should be able to
10 explain the model. I'm not saying Witness Repsher is
11 not. But I don't understand the objection, and I don't
12 think it misstates his testimony, but more importantly I
13 think I'm asking as it relates to his conclusion in a
14 way that's fair to the overall inquiry for the expert
15 witness. That's what he's here for.

16 JUDGE DIPPELL: Ms. Bentch, could you read
17 back the last question.

18 (The last question was read back by the
19 stenographer.)

20 JUDGE DIPPELL: Thank you. I'll let you get
21 caught back up. Are you ready to -- Okay. Objection
22 sustained. I believe the question asks for facts that
23 the witness has testified don't exist. He has not
24 testified that he assumed a carbon tax.

25 MR. HADEN: Judge, I respectfully disagree.

1 If I could ask to clarify then his testimony on that
2 matter to see if we can come back to this. We may get
3 an asked and answered objection. My understanding what
4 he testified to earlier is -- well, and I can ask him
5 again but I don't think that's what he said in his
6 earlier testimony about the way that assumption --
7 because it's not that the assumption is neutral, have it
8 in and have it out. It's not that it's completely
9 transparent to the rest of the conclusion. He said that
10 himself earlier that you subtract it out but there is
11 movement, he doesn't know the exact number, but there is
12 a difference between having it in and having it out.

13 MR. SCHULTE: Judge, if I may.

14 JUDGE DIPPELL: One last.

15 MR. SCHULTE: Mr. Haden is testifying about
16 what this witness testified about.

17 MR. HADEN: Then we can go back and read the
18 record. I'm fine with that, but I don't want to slow it
19 down that much.

20 JUDGE DIPPELL: Mr. Haden.

21 MR. HADEN: I don't think I am.

22 JUDGE DIPPELL: Mr. Haden --

23 MR. HADEN: Yes, Judge.

24 JUDGE DIPPELL: -- let Mr. Schulte finish.

25 MR. HADEN: Yes.

1 MR. SCHULTE: This is a good example, Judge
2 Dippell, of why we have prefiled testimony in
3 complicated technically intense areas and we could
4 simply go back and read footnote 4 on page 7 of Mr.
5 Repsher's testimony where he explains this very clearly.
6 And I don't know if Mr. Haden did not read that or if he
7 has questions specific to that statement in his
8 testimony, but I think that would help us and the
9 Commission clarify exactly what Mr. Repsher's testimony
10 is.

11 MR. HADEN: Judge, active cross-examination is
12 here in part because a witness might have an
13 inconsistent answer, they may roll back on an answer.
14 In all sorts of judicial proceedings, people say X in
15 direct testimony and then come back and say well, Y, in
16 cross-examination or they qualify their answer.

17 MR. SCHULTE: A study is a fixed final study.

18 MR. HADEN: It's about procedure.

19 JUDGE DIPPELL: Okay. Stop. Stop. I've
20 already ruled on the objection. Move on with your next
21 question.

22 MR. HADEN: Judge, I will move on.

23 JUDGE DIPPELL: Do not argue with me.

24 MR. HADEN: I have a question then on
25 clarification then. I'm not to go back to ask about

1 anything he's talked about earlier then in terms of the
2 analysis? I'm not going to ask the same question again.
3 I'm unclear now as to what his testimony is about how it
4 applies.

5 JUDGE DIPPELL: We talked for a long time
6 yesterday about a carbon tax. The witness testified,
7 the witness has prefiled testimony. I don't know how
8 much more we need to testify about whether there's going
9 to be, whether there was or whether there's assumptions
10 about an official carbon tax.

11 MR. HADEN: And Judge, not argumentatively
12 then, you know I have to do my job just making a record
13 then, I just put a place in the record. I mean, I am
14 objecting on an ongoing basis in not being able to
15 adequately cross-examine this witness based on the
16 ruling. I'll put that on the record. I'm not arguing.
17 You understand where I'm at on that. I'll move on.

18 JUDGE DIPPELL: Go ahead.

19 MR. HADEN: Thank you. I have. I just wanted
20 to make a statement there so I've got that.

21 BY MR. HADEN:

22 Q. Okay. Let's talk about underlying
23 assumptions, the dynamics within the model as it relates
24 to economic activity that may have been foregone by the
25 building of the line. Did your model as it lays these

1 numbers out, does it look at -- I know you talked about
2 ongoing social goods, et cetera. Did you account for
3 any lost ongoing social goods in the other direction?

4 A. I think if I understand your question, and I'm
5 trying to answer your question, I believe is your
6 question, you know, does the line result in less
7 economic generation development within the state of
8 Missouri, am I understanding your question?

9 Q. I guess when I look at it you talk about a
10 large number of ongoing social benefits that may come
11 from this.

12 A. Uh-huh.

13 Q. With a line in place there's some things that
14 will not be able to be done just necessarily. Would you
15 agree with that?

16 A. Yes. There's a finite amount of capital
17 theoretically in this world, as long as the government
18 doesn't print too much money, that limits economic
19 decision making, correct.

20 Q. And so there's opportunity costs in the strict
21 economic sense but then there's also a physical world --
22 I mean, there are literally things that you can't do
23 wherever they build the line, correct?

24 A. Yes. I mean, if a line, a tower is put in
25 place, then theoretically whatever the footprint is of

1 that tower, then you can't do something with that land
2 than you otherwise do.

3 Q. Did you make any accounting for lost
4 agricultural activity where the line is going to be
5 built?

6 A. That was a bit outside the purview of my
7 analysis. I think that might be a better question for,
8 I'm bad with names, but with the economic analysis that
9 I think is coming from a future witness from Invenergy
10 on the economic impact analysis. But yeah, I mean, I
11 agree that my analysis does not directly account for
12 lost agricultural use and, you know, if that creates a
13 negative impact. I didn't look at that.

14 Q. So you have no -- As you see sit here today,
15 you have no number either way on what would that would
16 do?

17 A. No, it was outside the scope of what I did.

18 Q. Do you have any -- Did you make any analysis
19 as to lost like habitat opportunities for wildlife?

20 A. I did not.

21 Q. Did you make any analysis as to lost local
22 aviation opportunities?

23 A. Again, that was outside of the analysis that I
24 did.

25 Q. Did you make any analysis as to the effect on

1 local communications that the line would have?

2 A. I did not.

3 Q. So you have no number one way or the other as
4 to how that would affect your overall analysis?

5 A. Yeah. I was focused primarily on the impact
6 with regard to power prices and capacity prices and the
7 impact on ratepayers with those direct impacts.

8 Q. Did you make any analysis as to what the
9 effects that falling SO2 rates would have relative to
10 the solar?

11 A. I'm not sure I understand that question.

12 Q. If you've got falling SO2 rates in the
13 atmosphere, does that have any effect on the efficiency
14 of solar operations over a 40-year window?

15 A. That's a very interesting question. I am not
16 a climate scientist. So I don't know. I'm going to
17 probably Google that later.

18 Q. That's not built into your model at all?

19 A. No, I didn't make an assumption on that.

20 Q. SO2 rates in the atmosphere do have, I mean,
21 the effect of diffusing the sun or do you know?

22 A. I feel like I've heard that at some point. So
23 I'll accept that as true.

24 Q. One second here. Did you look at any modeling
25 as to the way that future climate change may change wind

1 patterns in the Midwest?

2 A. I did not look at that.

3 Q. So in your model, I mean, it does assume a
4 fairly constant rate of wind going forward for the high
5 plains; is that fair?

6 A. Yeah, which I believe is based off of a, I'm
7 going to get the numbers wrong, but a 10 or 20-year kind
8 of record of wind.

9 Q. But you didn't look at any dynamic climate
10 modeling as to how that may change with or without
11 global warming or something like that?

12 A. I did not try to incorporate that.

13 Q. Do you know if anybody has published
14 methodology that would make that a possibility?

15 A. My understanding is that the IPCC, I believe,
16 or maybe someone else, has started to try to quantify
17 how wind patterns and solar irradiance may change based
18 off of climate change. I haven't personally tried to
19 dig into that or know how certain or uncertain those
20 projections are. So I haven't tried to incorporate
21 that.

22 Q. Do you have any post-mortems on the analysis
23 that you do for the clients?

24 A. Could you explain what you mean by
25 post-mortems?

1 Q. Well, I was looking at your CV. You got out
2 of UVA I think in 2001, correct? I'm sorry. Is that a
3 yes for the record?

4 A. I'm sorry. Yes, I got out of UVA in 2001.

5 Q. Sorry. So we make a clean record. So I think
6 you said in all 21 years of your professional career
7 after college have been involved in energy consulting,
8 correct?

9 A. That is correct.

10 Q. So in 21 years, I assume you've done, I'm not
11 being facetious, but you've done more projects than this
12 project, I assume?

13 A. Yeah. They've covered all sorts of generating
14 facilities across the U.S. and world.

15 Q. Have you ever gone back and analyzed post hoc
16 whether or not your analysis was correct or how correct.
17 I understand no analysis can be 100 percent correct when
18 you're projecting the future. Do you ever go back and
19 figure out how accurate your analysis was? Have you
20 ever done that on any of your past analyses?

21 A. Yeah, I mean, I don't know if clients have
22 ever asked us directly to do that. Certainly we're
23 always kind of going back and, you know, at least on an
24 ad hoc basis or from a high level kind of just looking
25 at how things look versus what we were saying at the

1 time.

2 Q. Have you ever gotten it really wrong?

3 A. I'm thinking. Sure. I mean, I would hazard a
4 guess that there have been times where we have made
5 assumptions that end up not happening.

6 MR. HADEN: That's all I have, Judge.

7 JUDGE DIPPELL: Thank you. Are there
8 questions from the Commission? Chairman Rupp.

9 CHAIRMAN RUPP: Morning.

10 THE WITNESS: Morning. How are you?

11 CHAIRMAN RUPP: I'm well.

12 QUESTIONS

13 BY CHAIRMAN RUPP:

14 Q. At the risk of poking the hornet's nest, I
15 need to revisit the carbon tax conversation, because I
16 too was confused at your responses which at times seemed
17 contradictory. So I wanted to try to clarify. You had
18 stated there was \$17 billion of ratepayer benefits in
19 savings. Later you said there were \$7.6 billion of
20 environmental savings that was not included in that 17
21 billion; is that correct?

22 A. Yeah, that's correct.

23 Q. Okay. The carbon tax assumptions, if a carbon
24 tax does not materialize, which bucket of money would be
25 most effective, the \$17 billion figure or the

1 environmental savings of 7.6?

2 A. Yeah, that's a good question and I can
3 understand the confusion because I often get those
4 confused as well. If we're talking about a carbon tax
5 or what's called a carbon shadow price at times, the
6 impact would be, again not knowing exactly where the
7 exact number of the impact would be on the \$17.6
8 billion, the 7.6 billion, this separate bucket is what's
9 sometimes called the societal cost or societal benefit
10 of carbon. That is -- You may be familiar with the term
11 called the social cost of carbon. That's what's used
12 there which is a different concept.

13 Q. Okay. You answered my question. That's the
14 social cost. Thank you. Will a carbon tax hurt the
15 sale of renewable energy?

16 A. I would say a carbon tax would only help the
17 sale of renewable energy, but I don't think the absence
18 of a carbon tax hurts it as you can see today with the
19 renewable developments.

20 Q. There was some questions between you and the
21 counsel from the Agricultural Association that appeared
22 that you were saying that a carbon tax would not impact,
23 would not hurt nor help the attractiveness of renewable
24 energy on the market?

25 A. Yeah, and I apologize if I was unclear. I

1 think, yes, from a very, if that's the direct question,
2 certainly. Putting a carbon tax all else equal would
3 make renewables more attractive.

4 Q. Okay. Thank you for clarifying. I thought
5 you also stated in your back and forth that if a carbon
6 tax was passed less renewables would be built. Did I
7 mishear you or could you explain?

8 A. I hope I didn't say that, because that's not
9 correct. I don't think I said that. I'm trying to
10 remember what I was saying. So all else equal, carbon,
11 or I'm sorry, all else equal, the assumption of a carbon
12 tax or a carbon program all else equal should lead to
13 more renewable development. It will make them more
14 economic.

15 Q. Okay. In your footnote 4 that your counsel
16 redirected us to, you identified Ameren is using a
17 carbon tax in their IRP, correct, process?

18 A. Correct.

19 Q. Does Ameren have their carbon tax assumptions
20 beginning in 2027, or do you know?

21 A. I am -- I actually don't know. I'm happy to
22 follow up there. I believe it's around the same time
23 frame but I don't remember off the top of my head.
24 Apologies.

25 Q. So my next question I was going to ask about

1 MISO, M-I-S-O, that you have in your footnote. Is there
2 a common timeline that utilities and RTOs and ISOs use
3 in their modeling of carbon tax or is it arbitrary to
4 whichever utility is plugging it into their own IRP?

5 A. Is your question related to the timing or the
6 price or both?

7 Q. When are they making -- Is there a general
8 assumption on IRP planning that when you model in a
9 carbon tax or carbon shadow that it will begin roughly
10 at the same time or one utility say it's going to begin
11 in 2035 and one be arbitrary and say no, it will be
12 2050?

13 A. Yeah, it's a good question. I don't think
14 there's any one year that utilities use across the U.S.,
15 but what I have seen is it's anywhere from 2025 to 2030
16 is sort of the time frame within which they're used. I
17 would say when you think about resource planning for
18 utilities, certainly they do care about what's going to
19 happen the next year and the year after. But really
20 they're trying to figure out if I'm going to put a new
21 power plant in service and it's going to be there for,
22 you know, 20 or 30 years, I really want to make sure
23 that the arc of my future kind of follows what I think
24 is going to happen. So I'm not sure that they're as
25 concerned about the specific start date but just whether

1 or not there is a carbon, you know, shadow price within
2 their analysis.

3 Q. Thank you. I believe it was yesterday in the
4 conversation about the IRA where you stated that the new
5 legislation can make projects more economic and I
6 believe you referenced a battery production tax credit?

7 A. I did, yes.

8 Q. Are any of those assumptions on those
9 additional tax credits for things like battery included
10 in any of your assumptions?

11 A. I'm thinking. I don't believe this analysis
12 assumes a tax credit for batteries. I believe shortly
13 after we completed this analysis my firm and myself we
14 started making -- we started hypothesizing about what
15 may come out of an IRA type bill and I think we started
16 making an assumption of an investment tax credit for
17 batteries kind of shortly after this analysis was
18 complete. My recollection, which is a bit fuzzy, is
19 that we did not include that tax credit within this
20 analysis.

21 Q. Currently a tax credit for -- a production tax
22 credit for batteries did not exist prior to the IRA?

23 A. No, it did not. So just to clarify, again I
24 don't want to drag us into the minutia, but I believe
25 batteries are only eligible for what's called the

1 investment tax credit, not the production tax credit,
2 which the only difference is that with the ITC as it's
3 called, you deduct that 30 percent off of your capital
4 costs straightaway as opposed to getting it over time.
5 I think that's all they're eligible for, but again I
6 could be wrong there. But prior to the IRA, the only
7 way that batteries could get a tax credit was if they
8 were paired directly with a solar or a wind facility.
9 But one of the changes with the IRA is that you can now
10 have a standalone storage facility and it can get a tax
11 credit on its own.

12 Q. Thank you for that clarification. You
13 mentioned earlier this morning that one of the changes
14 in the IRA is the transferability of tax credits?

15 A. Correct.

16 Q. I'm going to make -- Can any of those tax
17 credits be sold for capital costs? If it's a production
18 tax credit, it would be after the fact; but if the
19 batteries are investment tax credits, could that be
20 sold?

21 A. So the transferability market as you might
22 imagine is still developing given how new the IRA is,
23 but yeah, my understanding is that if you came up with
24 an arrangement with, you know, whoever the counterparty
25 would be, that you could -- I think it would probably be

1 challenging to transfer them at the same time you would
2 need to be putting out the explicit dollars for the
3 capital. I'm guessing you could have it happen shortly
4 thereafter. Again, I'm not a tax expert, so I don't
5 know exactly, but I would assume people could get
6 creative with the financial instruments to make that
7 happen.

8 CHAIRMAN RUPP: And Judge, that completes my
9 questions. Thank you.

10 JUDGE DIPPELL: Are there other Commissioner
11 questions? Commissioner Holsman.

12 COMMISSIONER HOLSMAN: Just real briefly.
13 Thank you.

14 QUESTIONS

15 BY COMMISSIONER HOLSMAN:

16 Q. Earlier in the testimony about the carbon tax,
17 I heard a question, and I wasn't certain if it was
18 objected to and walked back about partisanship in carbon
19 tax. I think the question went something like Democrats
20 would have to win for the carbon tax to be a viable
21 option and I just was curious if you had seen Mitt
22 Romney's comments that the quickest way to address
23 climate change would be through a carbon tax. Are you
24 familiar with his comments?

25 A. Yeah, I have. And I think, you know, it's

1 interesting. Again, I don't want to get into partisan
2 politics here, but one of arguably the most economically
3 efficient ways to address, you know, carbon emissions is
4 via just a carbon tax and I believe that's what
5 Mr. Romney has testified about. So yeah, there have
6 been bipartisan discussions on different ways to
7 implement it. I think things have just gotten -- things
8 get political after a while.

9 Q. So carbon taxes are not exclusive to one
10 political party?

11 A. They are not. And I believe if you go back,
12 you know, 20 years, the carbon tax was originally
13 introduced by Republicans, if I recall.

14 Q. Okay. And I also was interested in the follow
15 up. To be clear, it's not in the assumption of the 17.6
16 billion that a carbon tax will be in place by 2027; that
17 was not your assumption in that number?

18 A. Correct. I mean, it assumes that there is a
19 shadow price starting in 2026, but it's not saying that
20 it has to be, you know, from Congress or the EPA or
21 anything. It's recognizing the fact that today when
22 someone like Ameren is looking at their future, they are
23 assuming there will be some carbon constrained future
24 they have to deal with.

25 Q. My last question is, we talk about Phase I and

1 Phase II. Phase I we heard yesterday is, you know, 200
2 miles in Missouri, Phase II is 50 miles in Missouri then
3 continues on to the substations through Illinois into
4 Indiana. You mentioned earlier in your testimony that
5 Illinois has already passed some form of carbon
6 regulation. You said that it would start at the end of
7 or I guess the measuring or idling down of the natural
8 gas would happen in the next -- by 2024 but that by 2030
9 it really is going to impact. Have you factored in or
10 considered what that would do to Phase I or Phase II
11 given that we do have a regulatory framework that would
12 potentially impact Phase II?

13 A. Yeah. So it's a great question and something
14 we've looked at. So the state of Illinois by 2030 is
15 going to be facing issues where they need to find new
16 generation resources whether those are located in the
17 state, whether they are coming into the state, et
18 cetera. And so if Phase II does not happen, then the
19 state would be forced to look at other resources whether
20 those are in state or out of state. Even if you go to
21 the legislation that the state passed, I think one of
22 the explicit references in the legislation is the idea
23 that you can use transmission that interconnects at the
24 border of the state to help count for meeting the
25 requirements of the legislation. So I think all else

1 equal, to answer your question directly, if Phase II
2 doesn't exist, it would hurt the state of Illinois'
3 ability to meet their goals.

4 Q. So would an inverse position of that statement
5 there suggest that the regulatory environment in
6 Illinois would put an impetus on constructing Phase II?

7 A. Yes. I think that all else equal they would
8 prefer to have Phase II completed.

9 COMMISSIONER HOLSMAN: Thank you. Thank you,
10 Judge.

11 JUDGE DIPPELL: Are there other Commission
12 questions? All right. I have just a few.

13 QUESTIONS

14 BY JUDGE DIPPELL:

15 Q. Going back to your Schedule MR-2 of your
16 direct testimony.

17 A. Yes, I'm there.

18 Q. You outline the ratepayer impacts and the
19 additional benefits of the extended Grain Belt case.
20 How do these impacts differ from the initial project as
21 approved under the previous case, the 2016 case?

22 A. That's a great question. And I very much wish
23 I could answer that. We weren't part of that
24 proceeding. So I don't recall what they were and I
25 haven't done that specific analysis. But I think if we

1 want to kind of do a very 80/20 math just to put in the
2 record, I would imagine that you could kind of do a pro
3 rata kind of analysis where you said if the original was
4 proposed was I think 500 MW was authorized, you could
5 kind of take that on a pro rata basis versus now the
6 2500 and I think take 20 percent of this I guess that
7 would be and that would be roughly the savings you would
8 have had previously. Again, that's 80/20, maybe 60/40
9 math.

10 Q. Can you say what the ratepayer impacts over
11 additional benefits to Missouri is for Phase I alone?

12 A. The vast majority of the benefits that
13 Missouri get will be from Phase I just because that's
14 when the power is getting dumped directly into the
15 state. So I would -- again, I haven't done that
16 explicit breakout, but I would hazard to say that
17 probably, you know, of that 17.6, probably somewhere
18 north of 10 billion at least is just related to Phase I,
19 probably 10 to 15 billion, but again that's me doing
20 some math in my head very quickly.

21 Q. And is that the same in your estimation if
22 Phase II is never built?

23 A. Yeah, yeah, exactly. So basically what I was
24 trying to do with that math is say okay, if you just had
25 Phase II by itself it would be sort of what's called in

1 that \$10 to \$15 billion and then if Phase II happens
2 that's when you get that incremental 2 to 5 billion
3 benefit.

4 Q. Okay. You started with Phase II there, but
5 did you mean Phase I?

6 A. I'm sorry, yeah, Phase I.

7 Q. Also in that schedule on page 7 you mention
8 you showed delivering so much to Ameren's service
9 territory, Ameren Missouri?

10 A. Yes.

11 Q. I'm going to skip that one. I think that was
12 answered. What happens to the additional MW that are
13 going to be delivered to the substation for Associated
14 Electric Cooperatives that isn't already spoken for? Do
15 you know?

16 A. Yeah, I think again without -- I don't want to
17 -- I know we're in whatever acronym we were using
18 yesterday for confidential, so I won't get into that
19 directly, but you know, I think the idea would be that
20 that power could be utilized by any number of oftakers
21 that are directly interconnected with the AECI service
22 territory. You know, as I said yesterday, our analysis
23 is agnostic to who the specific oftaker is given we're
24 looking at the power price impacts. I think to answer
25 your question directly there are any number of folks

1 either in the AECI territory or directly adjacent to
2 them that could take that power.

3 Q. And you mentioned using the model called
4 Aurora. Do you know if MISO uses that tool, that same
5 model?

6 A. Subject to check, I think the answer is yes.
7 They either use that or they use a model called PROMOD.
8 I'm happy to get back to you on that. I used to know
9 the answer to this. I think they do use Aurora, but I
10 can get back to you certainly on that.

11 Q. Do you know about SPP?

12 A. I don't know again. The two main models that
13 ISOs use are either Aurora or kind of a competitor model
14 called PROMOD that sort of does the same thing. There's
15 a third one called PLEXOS. So I'm happy to get back to
16 you on those. Again, they all kind of do the same
17 thing. They kind of have the same objective in life.
18 It really comes down to what sort of legacy system the
19 ISO has used and what they're most comfortable with, but
20 I can get back to you on that.

21 Q. Does the model matter? Is it really more the
22 assumptions?

23 A. I think it's the assumptions and the operators
24 of the model and what -- but I think if you have a
25 competent person that knows how to run the models, it's

1 really about the assumptions more-so than anything else
2 than the model that you use.

3 Q. And do you know are you familiar with at all
4 which utility companies in Missouri might use that model
5 in their planning?

6 A. I'm not familiar off the top of my head which
7 one they use.

8 Q. Your testimony asserts that the renewable
9 resources delivered by the Grain Belt project have
10 considerably higher capacity factors than typical
11 midwestern resources. Can you tell me whether the RTO's
12 accreditation processes will recognize those resources
13 in a similar manner?

14 A. Yeah, that's a great question. I think as
15 Mr. Sane was talking about yesterday, and I'll kind of
16 echo some of his thoughts, SPP and MISO are currently
17 going through a stakeholder process to better understand
18 how they should account for the accreditation of
19 renewables on their system. Currently the way that MISO
20 works, for example, is they -- I believe they use just
21 the historical record of operations for the renewable
22 facilities to determine how they were operating during
23 the peak hours on the system. And in some cases that
24 could be a fleet average. To answer your question
25 directly, if the line was in place today, there could be

1 some challenges with recognizing the accreditation of
2 the line of the superior resources. However, where MISO
3 is moving now and will be within the next six to twelve
4 months is using what is called an effective load
5 carrying capability or ELCC methodology.

6 What that does is it looks specifically at how
7 individual resources are operating when those peak hours
8 happen. So my professional expectation is that
9 certainly by when this line would be online but probably
10 more likely within the next year they're going to be
11 looking specifically at how these resources operate when
12 that peak hour happens. So they would be able to
13 recognize these higher accreditation factors.

14 The other thing I'll point out just really
15 quickly, as Mr. Sane said yesterday, one of the
16 benefits, and this is what's captured in that ELCC
17 methodology, is that because these resources are located
18 farther west than the service territories here in
19 Missouri, if you think about load generally picks up
20 around the, you know, 5:00, 6:00, 7:00 p.m. here as
21 people get home from work. The solar resources will
22 still be performing quite well in western Kansas at that
23 time frame and wind also will be performing well. My
24 expectation is you'll get some, I call it a time zone
25 advantage as well because of where those resources are

1 located relative to load that would further strengthen
2 their accreditation on the system.

3 Q. Okay. Let me look here. I think I've got one
4 more. Okay. And the dreaded carbon tax subject. Is
5 the inclusion of a carbon tax the preferred or more
6 broadly accepted proxy value to evaluate the regulatory
7 risk associated with the continued utilization of carbon
8 intensive resources?

9 A. I think the short answer is yes. And when you
10 look at, for example, the MISO long range transmission
11 process that we were I think briefly talking about
12 yesterday or maybe Mr. Sane was, you know, that analysis
13 when MISO itself did it, they're looking at the two
14 different carbon worlds to analyze the value of
15 transmission lines. And as I said, most utilities when
16 they do their long-term resource planning they are
17 looking at a carbon shadow price to determine their
18 preferred resources going forward.

19 JUDGE DIPPELL: Are there any other Commission
20 questions? All right then. We can go ahead then. Are
21 there further cross-examination questions based on
22 questions from the bench from MEC?

23 MS. WHIPPLE: No, Your Honor. Thank you.

24 JUDGE DIPPELL: Sierra Club.

25 MS. RUBENSTEIN: No, Your Honor. Thank you.

1 JUDGE DIPPELL: Renew Missouri.

2 MS. GREENWALD: No, thank you.

3 JUDGE DIPPELL: Clean Grid Alliance.

4 MR. BRADY: No, thank you.

5 JUDGE DIPPELL: Public Counsel.

6 MR. WILLIAMS: Thank you, no.

7 JUDGE DIPPELL: Staff.

8 MR. PRINGLE: Yes, Judge. Thank you.

9 CROSS-EXAMINATION

10 BY MR. PRINGLE:

11 Q. And Mr. Repsher, what is the western most
12 state in MISO?

13 A. Good question. North Dakota I believe would
14 be the furthest west.

15 Q. I guess would it surprise you that MISO does
16 extend a little bit into Montana?

17 A. Yeah, it gets a little messy up there. I'll
18 agree with you.

19 Q. Thank you, sir. And also would you agree that
20 completion of both phases of this project is
21 economically optimal compared to the possibility of only
22 Phase I?

23 A. Yeah. I mean, I think if you believe in the
24 efficient use of capital and spreading costs over
25 larger, yeah, it's going to be more efficient to build

1 both phases.

2 Q. For clarification, how would you define
3 economically optimal?

4 A. I think when you look at the benefit, sorry,
5 the benefit to whether it's ratepayers or the company
6 pursuing the line, you know, the monetary benefits
7 versus the cost to build the line.

8 Q. And then do you recall when Judge Dippell was
9 questioning you about what assumptions have changed
10 since the original CCN case?

11 A. Yes, I do.

12 Q. And you did not testify in that 2016 case,
13 correct?

14 A. That is correct.

15 Q. Did you have the economic feasibility study at
16 that time prior to completing the study you submitted
17 with your direct?

18 A. I did not.

19 Q. So do you know what assumptions actually
20 changed?

21 A. I'm not sure that I -- I'm just trying to
22 remember what I said. I don't know if I actually
23 testified about the assumptions that were made, but I
24 think it's fair to say that I don't know all of the
25 assumptions that were made in that analysis.

1 MR. PRINGLE: Thank you, sir. No further
2 questions.

3 JUDGE DIPPELL: Anything from MLA?

4 MR. AGATHEN: No questions, Your Honor. Thank
5 you.

6 JUDGE DIPPELL: Agriculture Associations.

7 MR. HADEN: No, Your Honor.

8 JUDGE DIPPELL: Mr. Hollander.

9 MR. HOLLANDER: No. Thank you, Your Honor.

10 JUDGE DIPPELL: Ms. Stemme.

11 MS. STEMME: No questions. Thank you.

12 JUDGE DIPPELL: Associated Electric.

13 MR. ELLINGER: Associated Industries has no
14 questions.

15 JUDGE DIPPELL: Sorry. I've been saying
16 cooperatives too much. Is there redirect from Grain
17 Belt?

18 MR. SCHULTE: Yes, please. Thank you.

19 JUDGE DIPPELL: How much redirect do you think
20 you have, Mr. Schulte?

21 MR. SCHULTE: It's not a huge amount. Were we
22 planning to break at 10:30?

23 JUDGE DIPPELL: No, I was hoping to take a
24 short break around 10:00 sometime. So I didn't know if
25 this was a good time or if we should wait until after

1 the witness.

2 MR. SCHULTE: We can take a short break. I'm
3 sure Mr. Repsher would appreciate it.

4 JUDGE DIPPELL: Let's go ahead and take a
5 ten-minute break, come back at ten after, ten after
6 10:00. Go off the record.

7 (A recess was taken.)

8 JUDGE DIPPELL: Okay. I think we can go ahead
9 and go back on the record. So we were going to resume
10 with redirect of Mr. Repsher. Go ahead, Mr. Schulte.

11 MR. SCHULTE: Thank you, Judge.

12 REDIRECT EXAMINATION

13 BY MR. SCHULTE:

14 Q. Mr. Repsher, can you turn to your direct
15 testimony page 7?

16 A. Yeah, I'm there.

17 Q. At the top of that page do you see the
18 question please explain the project specific analysis
19 framework.

20 A. I do see that.

21 Q. And at line 5 in your answer you state PA
22 Consulting modeled two scenarios: One, a scenario with
23 approximately 2500 MW of injection capacity in Missouri
24 (the Expanded GBX Case) and (ii) a status quo scenario
25 with 500 MW of injection capacity in Missouri (the

1 Status Quo Case). Did I read that correctly?

2 A. Yeah, that's what it says.

3 Q. And then going down to line 11, there's a
4 sentence that begins the two scenarios differed in their
5 respective configurations; specifically, whether or not
6 they delivered into PJM, as well as the capacity of the
7 line and associated renewables. Are you referring to
8 when it says whether or not they delivered into PJM, is
9 that referring to the Grain Belt Express Project?

10 A. Yes, that's correct.

11 Q. And then it states all other assumptions were
12 held consistent between the two scenarios to isolate the
13 wholesale market impacts of the Expanded GBX Case? Did
14 I read that correctly?

15 A. I think you said consistent. I said constant.
16 Yes, that's what it says.

17 Q. Were held constant, yes. Thank you. So that
18 means, and just to clarify, all of the assumptions
19 regarding carbon tax or a carbon constrained future,
20 those were the same in the two scenarios that you
21 compared?

22 A. That's correct. We held all of the
23 assumptions the same between the two cases.

24 Q. And so there was a carbon tax or a carbon
25 constrained future assumed in both futures?

1 A. That is correct.

2 Q. And then in footnote 4 on that same page, you
3 refer to a national carbon pricing regime being
4 implemented in 2026. Do you see that?

5 A. I do.

6 Q. Could you read the last sentence of that
7 footnote?

8 A. Sure. So last sentence says "Carbon pricing
9 can be reflected as a broad shadow cost within
10 fundamental market models to analyze varying regulatory
11 outcomes, and the use as a modeling variable is not
12 necessarily tied to/dependent on a single legislative
13 outcome at the federal or state level."

14 Q. Okay. And is another way of saying that is
15 that the national carbon pricing regime is a useful
16 proxy?

17 MR. HADEN: Objection. I don't know what can
18 be more leading to actually put a quote in his mouth.
19 It's a leading objection.

20 JUDGE DIPPELL: I'll sustain. Can you
21 rephrase, Mr. Schulte.

22 BY MR. SCHULTE:

23 Q. What is the national carbon pricing regime a
24 proxy for?

25 A. It's a proxy for how players in the industry

1 analyze a carbon constrained future when making resource
2 decisions.

3 Q. And it would have been possible to model the
4 two futures, one with the status quo case and one with
5 the Expanded GBX case without an assumption about carbon
6 constraints; is that correct?

7 A. That is correct.

8 Q. If you hadn't assumed carbon tax or a carbon
9 constrained future in your study, would you still show
10 savings in excess of cost for the Grain Belt Express
11 Project?

12 A. Yes, I would.

13 Q. And you testified that your study did not
14 assume explicitly the provisions within the IRA; is that
15 correct?

16 A. Yeah, with the IRA being the Inflation
17 Reduction Act that was passed last year by Congress.

18 Q. Okay. So another way that you could have
19 modeled it, assuming you had the time, would have been
20 to remove the carbon tax or the carbon constrained
21 future proxy and replaced it with provisions of the IRA?

22 A. Yes, that's correct.

23 Q. And under that scenario would the results of
24 the study still show savings in excess of cost for the
25 Grain Belt Express project?

1 A. Yes, they would.

2 Q. And just briefly, and I think we've covered
3 this, but I just want to tie the line, you decided to
4 include a carbon constrained future assumption. Why?

5 A. Again, as I discussed I think earlier this
6 morning, we wanted to replicate a world that was
7 consistent with how industry players are making their
8 resource decisions on a go-forward basis. So trying to
9 ensure that we were putting ourselves in the shoes of
10 who would be the prospective buyers for energy and
11 capacity off of this line.

12 Q. In addition to the modeling that utilities and
13 RTOs do, have utilities also make public commitments to
14 shareholders and customers to decarbonize over time?

15 A. Yes, they have.

16 Q. Would that be another reason for including a
17 carbon constrained proxy in your study?

18 A. Yes, it would. For example, and I think it's
19 somewhere in my testimony, I believe Ameren specifically
20 has committed to carbon reductions, as well as I believe
21 the City of Springfield and at least one other city
22 within the state of Missouri.

23 Q. Are the takeaways of your study dependent on
24 the specific identity of oftakers for the project?

25 A. Yeah. Consistent with what I said I believe

1 yesterday afternoon, our study is agnostic to who the
2 oftakers are and the takeaways would be the same
3 regardless of who those specific oftakers are.

4 Q. In cross-examination by counsel for MLA, you
5 were asked and you testified that your study did not
6 directly compare the delivered cost of energy from Grain
7 Belt to the delivered cost of energy from various
8 in-state resources. Do you recall that line of
9 questioning?

10 A. Yes, I do.

11 Q. And why is the production cost modeling that
12 you did, in your opinion, why did you do that rather
13 than the direct comparison of the delivered cost of
14 energy, which I believe is sometimes referred to as a
15 levelized cost of energy analysis?

16 A. Sure. While a levelized cost of energy
17 analysis can be a useful starting point, it is a fairly
18 simplistic metric in so much that it's directly looking
19 at what is the cost of one option versus the other. So
20 sometimes I think about it you're going into a grocery
21 store and looking at what is the cost of this type of
22 apple versus another type of apple. What that price
23 doesn't tell you though really is the, or that cost I
24 should say doesn't really tell you what is the -- what's
25 the benefit that you're getting out of that purchase

1 like how good is the apple going to taste. So what our
2 analysis really shows is by putting this line in service
3 what are all of the impacts on the system that one would
4 see with the line in service, predominantly what are the
5 changes in energy prices, what are the changes in
6 capacity prices, what are the changes in emissions,
7 things that directly, you know, impact consumers with
8 regard to the benefits that they're deriving from the
9 line.

10 Q. I believe that counsel for MLA referred to
11 Staff's position in the 2016 case as stating that the
12 levelized cost of energy analysis is the best form of
13 analysis. Do you agree with that statement?

14 A. Again, while I wasn't part of the 2016
15 proceeding, I would respectfully disagree with that
16 statement.

17 Q. Do you recall on cross-examination from Staff
18 counsel you were asked about a hypothetical where there
19 was 10 MW of generation at 50 percent capacity factor
20 and 10 MW of generation at a 30 percent capacity factor?

21 A. Yeah, and walking off the stand I realized I
22 was an idiot because that's very easy math. It should
23 have been 40 percent capacity factor as opposed to
24 whatever I said. So apologies to counsel there.

25 Q. Okay. And that's just a simple average of the

1 two capacity factors?

2 A. Correct.

3 Q. For the net capacity factor assumed in the PA
4 consulting study, did you take a simple average of the
5 assumed generation?

6 A. No, I did not.

7 Q. Did you -- Did you consider in order to arrive
8 at the 74 percent capacity factor assumed in the study,
9 did you consider the hours at which the various
10 generators would be producing?

11 A. Yeah, and I think that's a key difference from
12 the single kind of simple average analysis that was
13 hypothesized yesterday. I think the best way to think
14 about it is if you have a hypothetical solar resource
15 and a second hypothetical wind resource, I think we
16 would all agree that solar does not produce during the
17 middle of the night so its capacity -- the capacity
18 factor that it's realizing is happening during the
19 middle of the day. Conversely, while you do get wind
20 generation in all hours of the day, within the
21 Midwestern U.S. you get what is sometimes called a
22 diurnal wind pattern which effectively means that as the
23 sun sets the wind typically generates more and so you
24 get what we would call a complementary effect whereas
25 when you put those resources together it's not directly

1 additive. I don't want to make that -- people have that
2 be the takeaway, but it can create a capacity factor
3 that is greater than the simple average.

4 Q. And do you recall how many MW of generation
5 you assumed would be interconnected to the Grain Belt
6 line in order to come up with that net capacity factor?

7 A. Yeah. Consistent with the discussions that
8 the Company has been having with developers, we assumed
9 9,300 MW would be interconnecting at the western
10 terminus in Kansas.

11 Q. And what's the overall capacity of the Grain
12 Belt line?

13 A. Once Phase I and Phase II are completed,
14 again, it is 5000 total MW.

15 Q. But you assumed 90 -- you assumed 9.3
16 gigawatts would be interconnect -- I'll use the same
17 measure, unit measurement. You assumed 9300 MW for a
18 5000 MW line; is that correct?

19 A. That is correct.

20 Q. How does that, I'll call it oversizing of the
21 generation, how does that impact the net capacity factor
22 in addition to the hours at which it generates?

23 A. Yeah. I anticipated this question I guess
24 last night because actually I had a dream about it. So
25 the way I would think about it is think about a garden

1 hose where it's finite size of the hole, your tube, you
2 are as you're packing more electrons within to that
3 finite space you're basically filling up more volume of
4 the line in more hours of the day which effectively
5 creates that higher call it utilization factor of the
6 line or capacity factor if we want to call it that. So
7 not only are you getting the two different patterns of
8 solar and wind that I just talked about earlier, but
9 also because in most hours, for example, solar even
10 during the middle of the day is not operating at 100
11 percent capacity factor. If you had two solar resources
12 operating at 50 percent capacity factor, both of those
13 could feed into the line and that becomes then an
14 additive number for that utilization factor of the line.

15 Q. Okay. Thank you for that explanation. I
16 believe you talked about the Aurora modeling in response
17 to questions from Judge Dippell. And that's one of top
18 two or top three models used in the industry?

19 A. Based on my opinion, yes.

20 Q. And then you also used GPCM for your modeling
21 as well. Can you explain what that is?

22 A. Sure. GPCM is a model that's used by the
23 natural gas industry to project future natural gas
24 prices. So without getting into the details of how it
25 works, you can effectively think of it as a production

1 cost model but for the natural gas sector. What we
2 utilized that model for is to come up with a forecast
3 for natural gas prices across North America again using
4 assumptions some of them the same that we use in our
5 power price forecasting but the model also will take
6 other assumptions such as the cost of a drilling rig,
7 decline curves for wells, et cetera, ultimately to come
8 up with those natural gas price assumptions which then
9 we input into our Aurora model.

10 Q. Is GPCM also a standard modeling tool used
11 across the industry?

12 A. Yeah. I believe MISO specifically uses the
13 GPCM model to forecast gas prices.

14 MR. SCHULTE: I don't have any further
15 questions.

16 JUDGE DIPPELL: Thank you. Mr. Repsher, I
17 believe that concludes your testimony then.

18 THE WITNESS: Thank you.

19 JUDGE DIPPELL: You may step down. I think we
20 can go ahead then with Grain Belt's next witness.

21 MS. CALLENBACH: Thank you, Judge. Grain Belt
22 calls Rolanda Shine, please. And Judge, just as a
23 preliminary. While she's getting settled, I had handed
24 out to every counsel table a red-lined one pager of some
25 changes to Ms. Shine's direct testimony at page 7, and

1 that was really in deference to our court reporter so
2 she did not have to take down every single strikeout.
3 We do intend, as we mentioned yesterday in prelims, to
4 file a new version of Ms. Shine's testimony at the
5 conclusion of this hearing that has those changes, the
6 several minor changes she'll make on the stand this
7 morning, the November errata sheet as well just so
8 there's one clean copy for the record, if that's
9 acceptable.

10 JUDGE DIPPELL: That is preferable so that the
11 exhibit that we mark will be the clean corrected copy;
12 and if for some reason counsel finds that there's an
13 error after that is filed, please bring that to the
14 attention of the Commission, myself, and we will get it
15 corrected.

16 MS. CALLENBACH: Thank you, Judge.

17 JUDGE DIPPELL: Ms. Shine, would you please
18 raise your right hand. Do you solemnly swear or affirm
19 that the testimony you're about to give at this hearing
20 will be the truth?

21 THE WITNESS: Yes, I do.

22 JUDGE DIPPELL: Could you spell your name for
23 the court reporter?

24 THE WITNESS: Rolanda Shine, R-o-l-a-n-d-a
25 S-h-i-n-e.

1 JUDGE DIPPELL: Thank you. And I know that
2 microphone is a little far away. If you can scooch up
3 to it as good as you can. Thank you. Go ahead.

4 MS. CALLENBACH: Good morning, Ms. Shine.

5 THE WITNESS: Good morning.

6 ROLANDA SHINE,
7 having been first duly sworn as a witness, was examined
8 and testified as follows:

9 DIRECT EXAMINATION

10 BY MS. CALLENBACH:

11 Q. You stated your name and your spelling. Would
12 you please state your business address for the record?

13 A. Sure. It's 1 South Wacker Drive, Suite 1800,
14 Chicago, Illinois 60606.

15 Q. And by whom are you employed and what is your
16 title?

17 A. I'm employed by Invenergy LLC. My title is
18 Vice President of Finance and Capital Markets.

19 Q. Are you the same Rolanda Shine who filed
20 direct testimony which has been marked as Exhibit 5,
21 surrebuttal testimony which has been marked as Exhibit 6
22 and Schedules RS-1 through RS-4?

23 A. I am.

24 Q. And do you have any corrections to your
25 testimony or schedules at this time?

1 A. I do. I have a few. The first one is in my
2 direct testimony, page 5, the Q&A on exhibits and
3 schedules. I would like to add Schedule RS-3 and let's
4 see the title of that, RS-3 is the Chart of Accounts
5 adopted in accordance with FERC's Uniform System of
6 Accounts at 18 CFR Part 101.

7 The next corrections are in my surrebuttal
8 testimony, the first one being page 3, line 8. The
9 exhibits and schedules identified as Schedules RS-1
10 through RS-4 -- sorry, RS-3; is that right?

11 Q. Yes, thank you.

12 A. RS-3. And then the final changes are on page
13 8, line 3 should reference highly confidential Schedule
14 RS-4 and footnote 6 should also refer to RS-4.

15 Q. Thank you. If I were to ask you the same
16 questions as contained in both your direct and
17 surrebuttal testimony, would your answers remain the
18 same today?

19 A. Yes, they would.

20 MS. CALLENBACH: Thank you. Judge, at this
21 time I would move for the admission of Exhibits 5 and 6
22 and Schedules RS-1 through 4, please.

23 JUDGE DIPPELL: And am I correct Exhibit 6, is
24 that HC, contains HC information?

25 MS. CALLENBACH: I believe, yes, the schedule

1 does, yes, Schedule RS-4.

2 JUDGE DIPPELL: All right. Then are there any
3 objections to Exhibits 5 and 6? Seeing none, I will
4 admit Exhibits 5 and 6, including the 6 highly
5 confidential version.

6 (COMPANY EXHIBITS 5 AND 6 WERE RECEIVED INTO
7 EVIDENCE AND MADE A PART OF THIS RECORD.)

8 MS. CALLENBACH: Thank you. And I would
9 tender the witness for cross.

10 JUDGE DIPPELL: Thank you. Is there any
11 cross-examination by MEC?

12 MS. WHIPPLE: No, Your Honor. Thank you.

13 JUDGE DIPPELL: Sierra Club.

14 MS. RUBENSTEIN: No, thank you.

15 JUDGE DIPPELL: Renew Missouri.

16 MS. GREENWALD: No, thank you.

17 JUDGE DIPPELL: Clean Grid Alliance.

18 MR. BRADY: No, thanks.

19 JUDGE DIPPELL: Public Counsel.

20 MR. WILLIAMS: Thank you, no.

21 JUDGE DIPPELL: Staff.

22 MR. PRINGLE: Yes, Judge. Thank you. Good
23 morning, Ms. Shine.

24 THE WITNESS: Good morning.

25 CROSS-EXAMINATION

1 BY MR. PRINGLE:

2 Q. I want to start off by just getting a few
3 definitions from you. How do you define economic
4 feasibility?

5 A. From my perspective, economic feasibility is
6 having an executable plan on how we intend to construct
7 and finance the Project in an economic viable and
8 financial matter.

9 Q. Do you see any difference in the definition
10 between economic feasibility and economic viability?

11 A. I think that those can be used
12 interchangeably.

13 Q. How would you define economic viability?

14 A. I would define it as a project that is able to
15 support its own cost through its revenue stream.

16 Q. And then how would you define financial
17 feasibility?

18 A. I think that would be very similar to economic
19 feasibility.

20 Q. How about financial capability?

21 A. Financial capability would be the ability to
22 support your operations potentially through your own
23 sources of funding.

24 Q. And then how would you define revenue
25 certainty?

1 A. Revenue certainty would be the Project's
2 ability to forecast out on a long-term basis the types
3 of long-term revenue contracts that it will be able to
4 look to for its source of revenue.

5 Q. Were you present yesterday when Mr. Sane was
6 on the stand?

7 A. I was.

8 Q. Did you hear his testimony regarding what the
9 Project's subscription level needs to be for revenue
10 certainty?

11 A. I believe he said it was around 70 or 75
12 percent.

13 Q. Do you have any reason to disagree with that?

14 A. I don't have any reason to disagree with that.
15 I don't think that it's a hard and fast answer, but I
16 don't disagree with that percentage.

17 Q. And then presently does Grain Belt have any
18 long-term transmission capacity contracts signed or
19 finalized at this time?

20 A. It has one contract signed at this time.

21 Q. And then you also in your surrebuttal you
22 reference a Staff witness Michael Stahlman's definitions
23 for material change; is that correct?

24 A. That's correct.

25 Q. And do you believe that a change in cost of

1 half a billion dollars would not result in material
2 change to the design and engineering of the Project?

3 A. I think for a Project of this size \$500
4 million would not necessarily constitute a material
5 change.

6 Q. Do you also agree that half a billion dollars
7 is roughly the cost of a converter station?

8 A. That is what I've heard.

9 Q. And then one moment. I need to confer with
10 your counsel see if we need to go in camera for this
11 question. All right. I don't think we need to go in
12 camera for this. It does have to do with what has now
13 been corrected to be RS-4 with your surrebuttal. It's
14 not going to be anything specific about any certain
15 numbers, Ms. Shine. Just more in the revenues there,
16 are those numbers there hard coded?

17 A. They are hard coded, yes.

18 Q. And can you describe to us why they're hard
19 coded, what was the reasoning for that?

20 A. I believe as we've just talked about, and
21 Mr. Sane explained yesterday, the customer contracts are
22 still in negotiation. So the terms have not yet been
23 finalized. The model that we are using takes different
24 customer terms into account. So the financial model
25 that was submitted uses hard codes because the

1 assumptions are not yet agreed.

2 Q. Okay. So it is fair to say those hard coding,
3 that's because it's resulting with the current
4 negotiations with the potential customers that Mr. Sane
5 discussed yesterday?

6 A. Correct.

7 Q. And the physical number itself, were there any
8 other assumptions built into it beyond the current
9 contract negotiations?

10 A. No. Those are the customer contract numbers.

11 Q. Were the, let's say, the assumed MW, is that
12 also based on the current negotiations?

13 A. Yes, it is.

14 Q. That number, can you share that number without
15 us going in camera, the assumed MW?

16 A. I believe our assumption is that the capacity
17 would be fully contracted.

18 Q. All right. Ms. Shine, I also asked this
19 question of Mr. Repsher. Would you agree that
20 completion of both phases is economically optimal
21 compared to only Phase I?

22 A. Yes, I would agree with his assessment that
23 completion of both phases is economically beneficial.

24 MR. PRINGLE: Thank you, Ms. Shine. No
25 further questions.

1 THE WITNESS: Thank you.

2 JUDGE DIPPELL: Thank you. Anything from MLA?

3 MR. AGATHEN: Thank you, Your Honor. Good
4 morning, Ms. Shine.

5 THE WITNESS: Good morning.

6 CROSS-EXAMINATION

7 BY MR. AGATHEN:

8 Q. Before I forget, I want to follow up on a
9 question from Staff counsel. I believe you said you had
10 one long-term contract for the purchase of capacity?

11 A. Correct.

12 Q. That would be with MEC?

13 A. Yes.

14 Q. Don't you have a contract with a merchant firm
15 called R-e-a-l-g-y?

16 A. That is not something that we have
17 incorporated into our financial model.

18 Q. Why is that?

19 A. I don't know. I think that the understanding
20 is that the remainder of the contracted capacity would
21 be subscribed through the other potential customers that
22 Mr. Sane described yesterday.

23 Q. Instead of that, I mispronounce this every
24 time, R-e-a-l-g-y?

25 A. I'm not familiar with the terms of that

1 contract.

2 Q. Thank you. I got a one-page handout with an
3 errata sheet this morning. I haven't been able to
4 digest it completely. But if I ask you questions that
5 are changed because of this errata sheet, would you let
6 me know?

7 A. Yes.

8 Q. If your answers are changed by the errata
9 sheet from what I ask you, would you let me know?

10 A. Yes.

11 Q. Thank you. Would you turn to page 7 of your
12 direct testimony, please.

13 A. I'm there.

14 Q. At lines 18 to 20, you mention the possible
15 financing of the line through the sale or lease of an
16 individual interest in the Grain Belt Project, correct?

17 A. That's correct.

18 Q. If I'm correct, over the last nine years, your
19 testimony is the first reference in any of the Grain
20 Belt cases that the Company is considering the sale or
21 lease of an undivided interest in the Project; is that
22 correct?

23 A. I was not involved in Grain Belt at that time.
24 So I'm not aware of how it was described then.

25 Q. You're not aware of any suggestion though on

1 those other cases for the sale or lease of the capacity
2 of the line of an undivided interest in it?

3 A. Like I said, I'm not familiar with the
4 contractual structures that they were contemplating.

5 Q. Okay. To me this is a new proposal from prior
6 Grain Belt cases. So let me just say hypothetically
7 that a utility purchased a 500 MW undivided interest in
8 the line. Exactly what would they be purchasing from
9 Grain Belt? I'm just unclear as to what that undivided
10 interest constitutes or includes.

11 A. So an undivided interest would be the sale of
12 a percentage of the line for their exclusive use.

13 Q. Percentage of the whole line?

14 A. For Phase I, if we're talking about Phase I.

15 Q. So it would be a percentage of the whole Phase
16 I as opposed to a certain segment of Phase I?

17 A. Correct.

18 Q. Would the buyer own the segment of the line
19 free and clear from any ownership interest or control by
20 Grain Belt if they bought an undivided interest in Phase
21 I?

22 A. Yes, that would be the intent.

23 Q. As a practical matter, how would this purchase
24 differ from a purchase of entire capacity of the line?
25 I'm trying to figure out what this undivided one-half

1 interest constitutes. How would that differ from simply
2 buying the entire capacity on Phase I Project?

3 A. Well, I think that the key difference is when
4 the payments are made. So if they were to take an
5 undivided interest, the payment for that interest or
6 percentage would be paid for up front. That would be
7 the purchase portion of the parenthetical. The
8 alternative would be to lease it on a long-term basis
9 and that would be paid over time.

10 Q. Assuming someone did buy an undivided half
11 interest in the entire Phase I, who would control the
12 right to sell capacity to others? For example,
13 hypothetically Ameren.

14 A. Uh-huh.

15 Q. Who would control the right to sell to Ameren?

16 A. That's not really my area of expertise. I
17 think that we, you know, we address things from, you
18 know, from an overall risk perspective from a commercial
19 lender. But in terms of an agreement on who is going to
20 control or operate or maintain, those are not decisions
21 that we make in the financing group.

22 Q. So you don't know?

23 A. I do not know in this case, no.

24 Q. I assume you were involved in the discussions
25 at Invenergy to possibly sell or lease an undivided

1 interest in the line; is that correct?

2 A. Can you repeat the question?

3 Q. Sure. I assume you were involved in the
4 discussions at Invenergy to possibly sell or lease an
5 undivided interest in the Grain Belt line, Phase I?

6 A. I am not typically involved in those
7 discussions.

8 Q. So you were not involved in the discussions in
9 this instance?

10 A. No.

11 Q. Do you know what the primary objective after
12 nine years or so of offering to sell or lease an
13 undivided interest in Phase I of the line?

14 A. Am I aware of the objective?

15 Q. Yes.

16 A. I think the objective is to contract as much
17 of the capacity as possible in order to finance it.

18 Q. So this was another means of financing the
19 Project as opposed to simply selling the capacity on the
20 line?

21 A. I think that both options are viable for
22 financing.

23 Q. Right. But it's another option?

24 A. Correct.

25 Q. Have you spoken with any entities about the

1 possible sale or lease to them of an undivided interest
2 in the line?

3 A. I have not.

4 Q. If you do sell or lease an interest in the
5 line, that transaction would have to be completed before
6 the closing on construction loans; is that correct?

7 A. Not necessarily.

8 Q. Why is that?

9 A. So I think that there are certain commercial
10 considerations about when, you know, a transfer of a
11 line would take place or the commitment to purchase an
12 undivided interest would take place. For us to, you
13 know, to raise the capital and to finance the
14 construction, most likely the sale would come after
15 completion of the line, not before.

16 Q. You testified in the Illinois Commerce
17 Commission proceeding regarding the Grain Belt line, did
18 you not?

19 A. I testified in Illinois, yes.

20 Q. Do you recall stating, quote, if we were to
21 enter into a lease or partial sale, we would do that
22 prior to financial close and that would be evaluated by
23 the lenders as part of the revenue source for the
24 project, end quote?

25 A. That's correct.

1 Q. So that's still correct in this case as well?

2 A. Correct. I think I was taking your question
3 to mean when would the cash transaction occur. That
4 would likely not occur prior to financial close.

5 Q. Perhaps I was unclear. Do you have any
6 estimate of the amount of capacity for which Grain Belt
7 might be selling or leasing an undivided interest in the
8 line?

9 A. I know discussions are ongoing. I don't know
10 the current discussion.

11 Q. Ongoing with respect to the sale of the
12 undivided interest?

13 A. Correct.

14 Q. Do you know who that discussion is with?

15 MS. CALLENBACH: Excuse me, Judge. I think if
16 before we reveal any potential counterparties we need to
17 -- that would be confidential information or HCC.

18 JUDGE DIPPELL: I think she can say whether
19 she knows but not the specifics.

20 MS. CALLENBACH: Yes. Thank you, Judge.

21 THE WITNESS: I do know.

22 BY MR. AGATHEN:

23 Q. You do know. Thank you. On a different
24 subject, did Grain Belt recently apply to the Department
25 of Energy for a construction loan for the project?

1 A. It did.

2 Q. Is this a request for an outright loan or a
3 loan guarantee?

4 A. It was for a loan guarantee.

5 Q. As opposed to a loan from the DOE?

6 A. The DOE provides a loan guarantee to the
7 federal financing bank and they provide the direct loan.

8 Q. Who provides the loan?

9 A. Still the federal government.

10 Q. So the federal government is going to be
11 loaning money?

12 A. Correct. I think as I stated however in my
13 direct testimony, DOE is only one of the financing
14 options that we're considering, but yes, we did submit
15 an application.

16 Q. How much of a loan guarantee are you asking
17 for in dollars?

18 A. We are not asking for a specific amount at
19 this time. The loan guarantee program is capped at 80
20 percent of total project costs.

21 Q. But there's been no decision made as to how
22 much they would guarantee in your case?

23 A. The typical process is to share the budget
24 with a lender and to conduct an underwriting analysis
25 for how much debt the Project can support. And we would

1 finalize the actual loan amount when the budget is
2 finalized closer to financial closing.

3 Q. Do you have an expectation as to how much this
4 will be? I mean, 70 percent, 60, 50?

5 A. We always like to raise as much as the lender
6 will allow.

7 Q. Right.

8 A. And DOE is allowing up 80 percent of total
9 Project costs.

10 Q. What have you budgeted for?

11 A. We have budgeted for 80 percent of total
12 Project costs.

13 Q. And the other 20 percent would come from
14 traditional lenders like banks?

15 A. The remaining 20 percent would come from
16 equity either from Invenergy or from third-party
17 investors.

18 Q. Okay. So the complete financing is going to
19 be through a loan from the federal government and equity
20 from Invenergy or others?

21 A. That's correct.

22 Q. Did Grain Belt first contact the DOE about
23 this loan or did the DOE contact Grain Belt first?

24 A. I was not involved in the Grain Belt
25 transaction at the time of the initial DOE discussions.

1 Q. Do you know what the approximate date was on
2 which the first contact was made between the DOE and
3 Grain Belt on this issue?

4 A. I don't have the date in front of me. It was
5 probably Q2 or Q3 of last year.

6 Q. Probably what?

7 A. Q2 or Q3 of last year.

8 Q. Thank you. Do you know what the status of
9 that request for the loan guarantee is? Has DOE made
10 any kind of a decision?

11 A. DOE has not made a decision. We still have
12 quite a bit of development on Phase I for any lender to
13 be able to make a final decision. We did submit the
14 part one application, they accepted it and invited us to
15 submit the part two application. We submitted the part
16 two application.

17 Q. Do you know when that matter will be finalized
18 with the DOE, when you will find out how much, if any,
19 they're going to guarantee?

20 A. Their decision would be made in a similar
21 manner that any commercial bank would go through. As we
22 have said, most lenders require several things to be
23 demonstrated before they will provide their commitment
24 and disburse funds. Examples of that would include
25 obtaining all permits, having all your regulatory

1 approvals, demonstrating that you have the remaining
2 equity needed to complete the Project, your customer
3 contracts are in place, your construction schedule is
4 viable.

5 Q. So basically the same types of conditions as
6 banks or other lenders would impose?

7 A. Correct.

8 Q. Under the terms of the proposed loan from DOE,
9 does DOE have the right to terminate the proposed loan
10 before it closes? Can they back off at any time?

11 A. Well, to be clear, DOE has not issued a
12 commitment yet. We are still in discussions with them
13 and we have submitted a part two application. I think
14 DOE and any commercial lender can choose not to fund a
15 project up until the time that they have issued their
16 commitment.

17 Q. So DOE could walk away at any point?

18 A. Up until financial closing, that's correct.

19 Q. Thank you. Aside from the DOE loan that we've
20 been discussing, has Grain Belt or Invenergy requested
21 any other form of financial assistance from any federal
22 government agency with respect to the Grain Belt
23 Project?

24 A. Not to my knowledge.

25 Q. You're familiar with the term memorandum of

1 understanding, correct?

2 A. Correct.

3 Q. Sometimes simply referred to as MOU, all caps?

4 A. Yes.

5 Q. Could you please describe the general nature
6 of an MOU?

7 A. It's an expression of interest to execute a
8 transaction between two parties.

9 Q. In your experience with lenders or investors
10 loan the money to finance the Grain Belt Project solely
11 on the basis of a typical MOU for the sale of capacity?

12 A. No, MOUs are nonbinding. So lenders would not
13 underwrite against it.

14 Q. They'd want to see actual customer contracts,
15 right?

16 A. That's right.

17 Q. Could you briefly describe the meaning of a
18 debt service coverage ratio?

19 A. Sure. So this is a typical metric that
20 lenders, project finance lenders, will use to ensure
21 that there is sufficient revenue to repay the debt. The
22 numerator consists of cash available for debt service
23 which in this case would primarily be from long-term
24 customer contracts. It would also net out your
25 operating expenses and then the denominator would be

1 your principal and interest.

2 Q. Typical coverage ratio for a construction loan
3 of a transmission project is roughly 1.25 to 1.5 times,
4 is that correct, based on your testimony starting at the
5 bottom of page 10 of your direct?

6 A. I believe my testimony was referring to
7 coverage ratios for project finance transactions
8 generally, not specifically to transaction projects.
9 The coverage ratio --

10 Q. Not specifically to transmission projects did
11 you mean?

12 A. Correct. A transmission project would fall
13 within the range that I provided, but this is a wide
14 range to take into account all different types of
15 project profiles. So a lower risk project, which one
16 would argue a transmission project is lower risk from a
17 lender's perspective, could fall towards the lower range
18 and a higher risk project could be at the upper range.

19 Q. What's the debt service coverage ratio for a
20 typical MOU? It would be zero, wouldn't it?

21 A. There would be no coverage ratio associated
22 with an MOU.

23 Q. Zero?

24 A. I'm not sure that I understand the question.

25 Q. You've talked about debt coverage ratios and

1 how they're calculated. Wouldn't the debt service
2 coverage ratio for an MOU for potential purchase of the
3 line be zero?

4 A. Well, the coverage ratio would apply to the
5 operations of a project entirely, not specific to a
6 singular contract or arrangement.

7 Q. So are you saying that there would be no debt
8 coverage ratio for a typical MOU?

9 A. I'm not really following the question because
10 an MOU is not a -- it's a letter of interest. It's not
11 cash based. There would be no metric associated with
12 that particular piece of paper.

13 Q. So there would be no debt service coverage
14 ratio for that project?

15 A. A coverage ratio can only be calculated if
16 there are revenues --

17 Q. Right.

18 A. -- and there is debt.

19 Q. That's my point. Since there's no revenues
20 and there's no debt service coverage ratio?

21 A. I think that the conclusion is not quite
22 appropriate, because as we've said an MOU is a step
23 towards having a signed customer contract that will be
24 legally binding. And once that is in place, then you
25 can use that as an input to your coverage ratio. But if

1 an MOU is only an expression of interest for parties to
2 move forward to negotiate economic terms and specific
3 prices, then at that point you will have information
4 necessary in order to calculate your coverage ratio.

5 Q. I don't want to prolong this, but there's no
6 revenues associated with the MOU, right?

7 MS. CALLENBACH: Judge, I'm going to object.
8 I think the witness has answered this question now
9 multiple times. So I would say asked and answered.

10 JUDGE DIPPELL: I think she's answered that,
11 Mr. Agathen.

12 MR. AGATHEN: Okay, Your Honor. I'll move on.

13 BY MR. AGATHEN:

14 Q. As you sit here today, other than the contract
15 with MEC, you don't know who the customers might be for
16 the purchase of the capacity on the line, do you?

17 A. I do not.

18 Q. On a different subject, could you turn to page
19 6 of your direct testimony, please.

20 A. Okay.

21 Q. At about line 3 through 7, excuse me, lines 3
22 through 7, you talk about the ability to secure Project
23 financing once the Project reaches an advanced stage of
24 development; is that correct?

25 A. That's correct.

1 Q. At what point in this process would you say
2 that the Grain Belt Project will reach an advanced stage
3 of development?

4 A. I would say once we have signed customer
5 contracts for the majority of the capacity, as well as
6 received regulatory approvals, that would be considered
7 enough of a basis to enter into active financing
8 discussions.

9 Q. Thank you. So at this point the Project is
10 still in what's called the developmental phase; is that
11 correct?

12 A. That's correct.

13 Q. Changing subjects again. I want to try and
14 nail down your latest projections for the cost of the
15 Revised Grain Belt Project. Do you have a copy there of
16 your responses to our Data Request G37?

17 A. It might take me a while to find it, but you
18 can --

19 MS. CALLENBACH: If I could just help the
20 witness, I think it might be tab 9 in your book there.

21 THE WITNESS: I'm not seeing tab 9.

22 MS. CALLENBACH: Judge, if we could just have
23 one minute to make sure the witness has the document.

24 JUDGE DIPPELL: Sure. We can go off the
25 record while they get the witness.

1 MS. CALLENBACH: I think we've got it.

2 JUDGE DIPPELL: Oh, we can go back on the
3 record.

4 THE WITNESS: Okay. I have it. Thank you.

5 BY MR. AGATHEN:

6 Q. Thank you. That's G37?

7 A. Yes.

8 Q. And you verified the answers to that response,
9 did you not?

10 A. I did.

11 Q. You begin the response by saying that based on
12 your most recent estimates, the total projected cost to
13 the entire Revised Project not including network upgrade
14 costs is 4.95 billion; is that correct?

15 A. That's correct across Phase I and Phase II.

16 Q. And then regarding the updates to the
17 projected interconnection cost, you defer to the answers
18 to Data Request G39, which was submitted by
19 Mr. Rodriguez; is that correct?

20 A. Correct.

21 Q. And then you go on in the last paragraph of
22 your response to Data Request G37 to state as follows:
23 Quote, please note that approximately 190 million of the
24 network upgrade cost will be paid during the Phase I
25 operating period through projected revenues and will not

1 be paid up front. Therefore, the Amended Project costs
2 are 5.5 billion, paren, 495 billion plus 598 million in
3 upgrades; is that correct?

4 A. Yes, that's what it says.

5 Q. I've got two questions about that quote.
6 First, just because a portion of the network upgrades
7 will be paid through project revenues, there's still
8 costs which must be incurred by Grain Belt as part of
9 the total cost of the Project; is that right?

10 A. That's correct. Some upgrade costs will be
11 paid up front and some of them will be paid during the
12 operating period.

13 Q. At the end of the quoted material you refer to
14 a total of 598 million in upgrades, correct?

15 A. Yes, that's correct.

16 Q. Let's assume hypothetically, if you would,
17 that in our response to Data Request G39, which you
18 refer to, Mr. Rodriguez said that the updated estimate
19 for the cost of network upgrades is just over 788
20 million. Do you know how to reconcile that figure with
21 the number you provide of 598 million?

22 MS. CALLENBACH: Excuse me, Judge. This is
23 not an objection. If Mr. Agathen wants her to look at
24 that response, that data request response, I think he
25 should provide a copy.

1 MR. AGATHEN: I'm just assuming the answer
2 hypothetically. He'll be on the stand later.

3 JUDGE DIPPELL: I'm sorry. I didn't catch the
4 original question.

5 MR. AGATHEN: Let me start again.

6 BY MR. AGATHEN:

7 Q. Let's assume hypothetically that in response
8 to our Data Request G39 Mr. Rodriguez stated that the
9 updated estimate for the cost of network upgrades is
10 just over 788 million. Do you know how to reconcile
11 that figure with the number you provided of 598 million?

12 MS. CALLENBACH: Sorry, Judge. Same
13 objection. If he wants her to compare the two numbers
14 and reconcile the two, I believe she should be provided
15 a copy so she can see those numbers in context.

16 JUDGE DIPPELL: Do you have a copy of that DR,
17 Mr. Agathen?

18 MR. AGATHEN: Not readily available, Your
19 Honor.

20 JUDGE DIPPELL: If the witness can answer in
21 the context that, I mean, Mr. Agathen is asking about
22 numbers in the context of the DR but he's asking the
23 question outright as if it weren't in the DR. So can
24 you answer the question or do you need?

25 THE WITNESS: I would like to see the context

1 and the buildup of the number that's being referenced in
2 Mr. Rodriguez's testimony.

3 MR. AGATHEN: I'll withdraw the question.

4 BY MR. AGATHEN:

5 Q. Could you turn, please, to page 7 of your
6 direct testimony.

7 A. I'm there.

8 Q. Beginning at line 9, you're talking about the
9 costs of network upgrades as opposed to the base cost of
10 the Project itself; is that correct?

11 A. Correct.

12 Q. Perhaps you could help me out here. Beginning
13 at page 7 --

14 MS. CALLENBACH: Excuse me, Judge. I'm sorry
15 to interrupt. Are we referring to page 7 that's
16 currently in her direct testimony or the red-lined of
17 page 7 we distributed this morning?

18 MR. AGATHEN: Original direct testimony.

19 MS. CALLENBACH: Okay. Thank you.

20 MR. AGATHEN: And you can tell me if that
21 changes your answer.

22 BY MR. AGATHEN:

23 Q. Beginning at line 11 of page 7, you state that
24 the transmission owner will pay for the upgrades up
25 front and Grain Belt will repay the transmission over --

1 transmission owner over a 90-year period; is that
2 correct?

3 A. In my direct testimony, I said that the
4 transmission owner will pay for the upgrades up front
5 over a 20-year period.

6 Q. In that statement, is the transmission owner
7 the entity which owns the line to which the Grain Belt
8 Project is connecting, for example, its connection with
9 Ameren in Callaway County?

10 A. So Grain Belt would repay the transmission
11 owner. I did for clarity update this section in the
12 revised page 7 that was circulated at the beginning.
13 And so the revised sentence reads typically upgrade
14 costs are paid up front and included in the project
15 costs, but for this Project, some costs will be paid up
16 front and, for the rest, Grain Belt Express will enter
17 into facilities services agreements to pay for the
18 upgrades over time.

19 Q. Okay. So you're saying Ameren would pay up
20 front part of the costs of connecting hypothetically if
21 Ameren were involved in it?

22 A. Hypothetically if Ameren were involved in it.
23 It depends on the arrangements, but the upgrade costs
24 that we agree to pay could be paid for in one of two
25 ways, up front or over time.

1 Q. Who would make the decision as to which way to
2 do that?

3 A. I believe that would be a joint decision but a
4 question better for Mr. Rodriguez.

5 Q. Well, if Ameren pays it up front, doesn't it
6 become part of Ameren's rate base?

7 A. I believe that's a question for Mr. Rodriguez.

8 Q. But Ameren could potentially have to pay the
9 costs up front?

10 A. They could potentially pay the costs up front.

11 Q. And it's going to want to recover somehow a
12 return on that up front payment, is it not, logically?

13 A. I think that's a question for Mr. Rodriguez.

14 Q. So you don't know?

15 A. I do not know the discussions that we are
16 having on the ways to pay for the upgrades.

17 Q. Would that up front payment by the
18 transmission owner apply to all of the network upgrades
19 needed to connect the Grain Belt line to the
20 transmission systems at all three of Grain Belt's
21 converter stations?

22 A. Can you repeat the question?

23 Q. Would this up front payment we've been talking
24 about by the transmission owner apply to all of the
25 network upgrades needed to connect the Grain Belt line

1 to the transmission systems at all three of Grain Belt's
2 converter stations?

3 A. No. My corrected response says that the
4 upgrades can either be paid for up front or over time.

5 Q. Right. But that would apply to all three
6 converter stations?

7 A. That's my understanding, yes.

8 Q. On a different subject, does your projected
9 cost figure for the Project of 4.95 billion include the
10 cost of debt, the interest that would be paid on
11 construction loans?

12 A. This includes -- This includes primarily
13 equipment and costs specifically related to
14 construction, not financing costs.

15 Q. Okay. When you borrow money from the DOE or
16 whoever, you will incur a financing cost, right?

17 A. Correct.

18 Q. But that's not included in the 4.95 billion?

19 A. Correct.

20 Q. Do you have a projection as to how much the
21 financing cost will be approximately?

22 A. I do not have that number with me.

23 Q. Are we talking billions over the life of the
24 Project?

25 A. I'm sorry. I think it's important to clarify

1 or distinguish that financing costs as it relates to the
2 \$4.95 billion figure would only include the construction
3 phase, as financing costs incurred during the operating
4 phase would be covered by your operating cash flows.

5 Q. Right. They'd be covered by those cash flows,
6 but I'm looking for an amount of what the cost of debt
7 really is, an approximation.

8 A. We negotiate financing terms, financing fees
9 when we get into active negotiations. Obviously we try
10 to keep those financing fees as competitive as possible,
11 and we do not have I think a firm estimate at this time.

12 Q. Well, there is some amount of financing costs
13 that Grain Belt will incur, right?

14 A. Correct.

15 Q. And that's not included in the 4.95 billion
16 figure, right?

17 A. Correct.

18 Q. And you just don't know at this point how much
19 that cost of debt is going to be; is that what you're
20 saying?

21 A. The cost of debt is dependent on several
22 factors, including the time of construction, the
23 interest incurred during the construction period, and
24 any associated fees related to the cost.

25 Q. I understand that. What I'm looking for is an

1 approximate number of what that cost is going to be.

2 MS. CALLENBACH: Objection. Asked and
3 answered. The witness has said that it's unknown at
4 this time.

5 JUDGE DIPPELL: I didn't actually hear the
6 witness say that. I heard her say that -- Well, I heard
7 her say that, you're correct, she doesn't know the exact
8 number, but she hasn't answered whether there's an
9 estimated number and I thought that was Mr. Agathen's
10 question.

11 MR. AGATHEN: It was, Your Honor.

12 BY MR. AGATHEN:

13 Q. I mean, there has to be a budget at Invenergy
14 somewhere or Grain Belt somewhere that includes the cost
15 of debt as an estimated figure. Would that be correct?

16 A. Yes, we have internal estimates and that
17 estimate changes depending on other changes to the
18 Project such as changes in the budget, changes in the
19 timeline. So that estimate will continue to change.

20 Q. Okay. And what is it at this point?

21 A. I don't have that number in front of me.

22 Q. Do you have an approximate number?

23 A. Yeah, I don't have that number in front of me
24 unfortunately. I would say, however, that financing
25 costs are included as eligible Project costs within the

1 calculation of debt. So the financing costs would be
2 included in total Project costs of which DOE lends up to
3 80 percent.

4 Q. But they're not included in that 4.9 billion
5 figure that you cite to, is it?

6 A. That's correct, but it would be included in
7 the basis for financing.

8 Q. On another subject, would you turn, please, to
9 page 12 of your direct.

10 A. Okay.

11 Q. Beginning at the first line of page 12, you
12 state that debt providers would not make such a
13 long-term commitment to finance the Project before key
14 regulatory approvals are in place. Is that essentially
15 correct?

16 A. That's correct.

17 Q. And it's also true they would not make
18 commitments until after the Project has obtained all of
19 the required interconnection approvals such as those
20 from MISO and PJM; is that correct?

21 A. Was that in my direct testimony?

22 Q. I'm just asking.

23 A. Can you repeat the question, please?

24 Q. It's also true that the lenders would not make
25 such commitments until after the Project has obtained

1 all of the required interconnection approvals such as
2 those from MISO and PJM?

3 A. Yes, that's generally correct.

4 JUDGE DIPPELL: Mr. Agathen, I hate to
5 interrupt, but we're going to have to take our lunch
6 break right now.

7 MR. AGATHEN: You're not interrupting at all,
8 Judge. I am finished.

9 JUDGE DIPPELL: Excellent. Well, then this is
10 a good place to take our lunch break. We will take a
11 break until -- let's see. It's 11:30 now. Let's take a
12 break until 12:45, and we can go off the record.

13 (The noon recess was taken.)

14 JUDGE DIPPELL: Back on the record. All
15 right. Let's go ahead then and go back on the record.
16 And Mr. Agathen said that he had completed his cross; is
17 that correct, Mr. Agathen?

18 MR. AGATHEN: That is correct.

19 JUDGE DIPPELL: So Agriculture Associations.

20 MR. HADEN: Thank you, Judge. I just had a
21 few quick ones, I think.

22 CROSS-EXAMINATION

23 BY MR. HADEN:

24 Q. So Ms. Shine, I just want to be clear. I
25 think you said earlier to the extent there's talk about

1 selling or leasing the line out to a third party, I
2 understand leasing the company would retain ownership of
3 the physical assets of the line, correct, if you did
4 that?

5 A. If we lease the line?

6 Q. Yes.

7 A. Yes.

8 Q. But if you sold the line, you would presumably
9 sell it to a third party?

10 A. We would sell that portion of the interest to
11 a third party.

12 Q. I just want to make sure I understand what
13 we're talking about. When we're talking about an
14 interest, because I know any one of these things could
15 be something you sell, you could sell transmission
16 rights, you could sell the actual physical asset. We're
17 talking about the physical asset itself.

18 A. If it would be, yes, in some percentage.

19 Q. That could be -- I understand that could be 1
20 percent, that would be 100 percent you sell to some
21 third party, correct?

22 A. Technically that's correct. I don't think
23 that's part of the current plan to sell 100 percent.

24 Q. Okay. I guess we're tying back into it from
25 landowners. And you may not know, but if you know, if

1 Grain Belt does that, is it going to sell the entity to
2 a third party, the Grain Belt entity, or is it just
3 going to sell a share in the real estate and assets?

4 A. Yeah, it would not sell an interest in the
5 entity. That would remain with Invenergy or Invenergy
6 as a sponsor.

7 Q. Do you know if there's any plan for how the --
8 I mean, would Grain Belt retain the obligation to pay
9 the remaining 80 percent on its voluntary easements to
10 landowners under the plan?

11 A. Could you repeat the question?

12 Q. Yeah, let me back up. You may not know. Let
13 me give you a little background. Your own witness
14 talked about this and I think it's been pretty public
15 record that the deal being offered to landowners has
16 been -- on voluntary easements has been 20 percent
17 payment up front, 80 percent at construction?

18 A. Uh-huh.

19 Q. If the line sells after construction, then
20 this isn't really relevant because I think they would be
21 paid contractually at construction. But if the line was
22 sold before construction, do you know if Grain Belt has
23 any plan as to what they would do? Would they offload
24 that obligation to a third-party buyer? Would they
25 retain the obligation to pay the landowners? How would

1 it work, if you know?

2 A. Well, the line would not be sold prior to
3 construction, because there wouldn't be anything to
4 sell.

5 Q. Okay. So you feel confident one way or the
6 other that at construction Grain Belt will own that
7 asset still such that they will be there to pay the
8 landowners?

9 A. Yes, that's right.

10 Q. You think they'll be solvent such that they'll
11 be able to pay landowners at that point?

12 A. We would have the debt and equity financing
13 necessary to pay out all Project costs which would
14 include land payments.

15 Q. Earlier you were talking I think in response
16 to one of Mr. Agathen's questions about Ameren paying
17 upfront costs on upgrades. Do you remember that? It's
18 from your revised testimony we looked at today?

19 A. Yes.

20 Q. To be fair, I don't think this testimony
21 specifically references Ameren but I think that was a
22 hypothetical you at least discussed today with --

23 A. I think that was the hypothetical, yes.

24 Q. Okay. And whether it's Ameren or anybody
25 else, I mean, you don't have a contract in place right

1 now that says that's going to happen, correct?

2 A. That's an interconnection question best left
3 to Mr. Rodriguez.

4 Q. So you don't have knowledge as to whether the
5 Company has contracts in place regarding that sort of
6 arrangement?

7 A. I don't have the specifics, no.

8 MR. HADEN: Thank you. That's all I had,
9 Judge.

10 JUDGE DIPPELL: Thank you. Mr. Hollander.

11 MR. HOLLANDER: I do not have any questions,
12 Your Honor. Thank you.

13 JUDGE DIPPELL: Thank you. Ms. Stemme.

14 MR. HOLLANDER: She's left the room.

15 JUDGE DIPPELL: Associated Industries.

16 MR. ELLINGER: No questions, Judge.

17 JUDGE DIPPELL: Are there questions from the
18 Commissioners? Chairman Rupp, do you have questions?

19 CHAIRMAN RUPP: Not for this witness. Thank
20 you.

21 JUDGE DIPPELL: I have just a few, including
22 some for the Commissioners who aren't here.

23 QUESTIONS

24 BY JUDGE DIPPELL:

25 Q. So on page 5 of your direct testimony, let me

1 pull it up here. Sorry. I'm trying to pull it up
2 myself. At line 23 through line 1 of page 6, you say
3 Grain Belt Express has access to the necessary financial
4 resources to carry out the necessary development work
5 for the Project prior to engaging in project-specific
6 financings for the construction of each Phase of the
7 Project. Can you explain what project-specific
8 financing means?

9 A. Project-specific financing from my perspective
10 means creating a financial structure that is nonrecourse
11 or limited recourse in basis which looks at the Project
12 cost specific to that Project, in this case Grain Belt,
13 and then looks at the revenues that that Project will
14 generate over time that will be sufficient to cover its
15 financing needs. So project-specific financing
16 typically means that there is no recourse to the parent
17 or no obligation by the parent to service or repay the
18 debt and that the Project is successfully structured in
19 such a way that the revenues will be sufficient to
20 support its operations including payment of operating
21 expenses, taxes and debt service.

22 Q. And in this case the parent company is
23 Invenergy?

24 A. Invenergy Renewables.

25 Q. How does that Project financing differ than

1 from corporate financing?

2 A. In the financing structure that we're using
3 here, we're assuming that we are going to raise the
4 majority of it from financing through debt and then the
5 remainder of it would be financed through equity. So in
6 the case or the example that I was using with DOE, we
7 could raise 80 percent in debt and 20 percent would be
8 covered by Invenergy Renewables through the sponsor
9 equity commitments. The project-specific financing
10 would not include any guarantee by the parent to repay
11 the debt because the financing has been appropriately
12 structured to ensure that there is sufficient cash flow
13 being generated by the Project to cover its financial
14 obligations which I went through before and again
15 includes a certain amount of buffer via the agreed debt
16 service coverage ratio.

17 In the case of a corporate financing, debt
18 would be raised maybe at the corporate level, not at the
19 Project level. The financial obligation would flow
20 through to the Project sponsor, the Project sponsor
21 would be 100 percent responsible for the debt
22 obligations or financial obligations of the Project
23 regardless of the performance of the Project.

24 Q. And when you were saying "we," you were
25 referring to Grain Belt?

1 A. Correct.

2 Q. So in order to close on the financing of Phase
3 I using the project financing, will Grain Belt have to
4 show that it has executed sales contracts?

5 A. Yes. In the type of Project financing that I
6 am describing, it is very common, if not expected, for
7 the revenue stream to be -- to have a high degree of
8 certainty. That means that we would be looking to sign
9 up long-term customer contracts that would demonstrate
10 the Project will have stable cash flows.

11 Q. And will those cash flows have to be
12 sufficient to cover all operating costs and debt
13 service?

14 A. Generally speaking, yes. Some Project lenders
15 will give credit to uncontracted cash flows but on a
16 discounted basis. But generally they will look to the
17 contracted revenues to cover the debt service and
18 sometimes they will give credit to a portion of the
19 uncontracted.

20 Q. Under project financing, at what phase in the
21 process are offtaker contracts and operations and
22 maintenance contracts executed?

23 A. Well, they would be executed during the
24 development phase. So prior to financial close and
25 start of construction.

1 Q. So would that be typical to have those
2 contracts at the current status of the Project or would
3 it typically be done after certification and before the
4 financing close or what's the timing of that in general?

5 A. For long-term customer contracts, it's
6 certainly before financial close. When it is signed
7 depends on the level of development of a particular
8 Project. Some customers will be willing to enter into
9 commitments early subject to the Project meeting certain
10 development milestones. So that gives them a certain
11 level of comfort for entering into a commitment early.
12 Others may prefer to wait until Projects have reached
13 more advanced development when key Project risks have
14 been derisked before they enter into a contract. So I
15 think it really is on a case-by-case basis.

16 Q. And in order to use the Project financing to
17 finance in phases of construction like is being
18 requested here, will the lenders be -- what will the
19 lenders be assessing for each phase? Will that be like
20 sufficient revenue to cover costs and service fees?

21 A. Yes. So the lenders will be looking for each
22 phase to be able to stand on its own and service its
23 financial obligations on its own. So for example, the
24 customer contracts that we negotiate and enter into for
25 Phase II will not be -- will not be used in Phase I to

1 cover debt service. The lender for Phase I is going to
2 look at Phase I costs and the expected revenues for
3 Phase I as the basis for providing financing for a Phase
4 I. And Phase I will need to stand on its own, which is
5 why we've always said that Phase I will be and has to be
6 economically viable in order for the financing to be
7 closed.

8 And that's a similar case for Phase II. The
9 Project finance lender for Phase II will look at the
10 Project costs related to Phase II, will look at the
11 customer contracts that we sign up for Phase II, and
12 will expect that those revenues will be sufficient to
13 cover the debt related to that phase.

14 Q. And will lenders also look at the revenues
15 under various stress scenarios?

16 A. Absolutely. And they will hire outside
17 consultants, typically a third-party independent
18 engineer, that will help them determine what the
19 appropriate stress scenario should be.

20 Q. Why is the Project being considered in phases?
21 Do you know? Why has it been broken up into Phase I and
22 Phase II?

23 A. Well, I think the previous or the past
24 witnesses have, you know, given their view. From a
25 financing perspective, you know, Phase II is much

1 earlier in development than Phase I. And Phase I is
2 getting to a point where it will soon be ready for
3 financing which is we are very close to signing up
4 customer contracts for Phase II -- or sorry, for Phase
5 I, but we're not as advanced as it relates to Phase II.
6 So we do not want to hold up Phase I simply because of
7 where we are on Phase II. So in my opinion, we are
8 breaking it up into phases so we can successfully
9 finance and build the part of the line that is ready to
10 go.

11 Q. And by doing that, are there financing
12 benefits to breaking it up into phases or are there
13 challenges?

14 A. I'm not sure there are benefits on an economic
15 basis. There are perhaps benefits from an execution
16 standpoint. By breaking it up into phases, there is a
17 high likelihood that we can replicate a lot of the
18 financing due diligence from Phase I into Phase II.
19 Perhaps the documentation will be more straight forward
20 for Phase II because it will look very similar to Phase
21 I. Perhaps we can even use the same lender for Phase II
22 that we will use in Phase I but the interest rates will
23 stay the same. Fees will probably be around the same,
24 maybe a little bit less. In terms of disadvantages, I
25 can't really think of any.

1 JUDGE DIPPELL: In your Schedule RS-3, which
2 is a highly confidential schedule -- Can I ask the
3 attorneys if it's just the numbers in that schedule that
4 are highly confidential?

5 MS. CALLENBACH: Judge, are you referring to
6 RS-4, the financial model? We renumbered it. We had
7 inadvertently had two RS-3s.

8 JUDGE DIPPELL: Yes, I'm referring to the
9 Excel spreadsheet with financial information.

10 MS. CALLENBACH: Was your question is it just
11 the numbers that are considered?

12 JUDGE DIPPELL: Yes, are the items that are
13 listed.

14 MS. CALLENBACH: Can we have just one second
15 to confer about that. Thanks. Thank you, Judge. It is
16 just the numbers that we consider confidential.

17 JUDGE DIPPELL: Okay. So the reason I asked
18 that was because in the -- now I want to make sure I'm
19 asking the right question about the right thing. Hang
20 on just a second. Okay. Yeah, in that schedule there's
21 a reference to construction completion dates. Is that
22 construction completion timeline, is that also HC?

23 MS. CALLENBACH: No.

24 JUDGE DIPPELL: No. Okay.

25 BY JUDGE DIPPELL:

1 Q. So when is the construction of Phase I
2 expected to be completed?

3 A. I don't have the file in front of me.

4 MS. CALLENBACH: Judge, we need to grab a
5 laptop real quick.

6 JUDGE DIPPELL: I apologize. This may have
7 been asked or answered by the other witnesses.

8 THE WITNESS: I have the model. Can you
9 repeat the question?

10 BY JUDGE DIPPELL:

11 Q. I was wondering when the construction phase or
12 construction of Phase I is expected to be completed.

13 A. So we have the commercial operation date in
14 here as March 31, 2028.

15 Q. That's what COD is in that context?

16 A. Correct.

17 Q. So how would the schedule for Phase II then
18 align with that? When do you plan to start Phase II
19 relative to the completion of Phase I?

20 A. And you're talking about start of
21 construction?

22 Q. Yes.

23 A. Because I don't think that we have assumptions
24 for Phase II in this model. So I just want to be clear
25 on whether you're referring to something in the model.

1 Q. Okay. Do you know the answer or?

2 A. I think it's generally trailing 18 months
3 behind Phase I; but again as I mentioned, Phase II is
4 further behind from Phase I. So that could move around.

5 Q. And then in your testimony in your schedules,
6 and I don't know if it's RS-4 or something else, but you
7 also included the pro forma financials for Phase I,
8 correct?

9 A. So RS-4 are the pro forma financials for Phase
10 I.

11 Q. Okay. Did you anywhere include a similar pro
12 forma for Phase II?

13 A. We did not.

14 Q. So we talked about economic feasibility and
15 financial feasibility of Phase II, and do you consider
16 -- Staff kind of asked these questions, but to you is
17 economic feasibility and financial feasibility the same
18 thing?

19 A. To me I view them the same. I think that
20 Phase II will be or is economically feasible given the
21 fact that we have a plan for executing on Phase I. It
22 is and it looks very similar to our strategy for Phase
23 II. So the conclusion is that Phase II is economically
24 viable.

25 Q. Okay. How have the increased Project costs

1 impacted the decision to do a phasing of the Project?

2 Do you know or has it had an effect?

3 A. An increase in the Project costs?

4 Q. Yeah, has that had any effect in the decision
5 to break it out into two phases?

6 A. No, not in my opinion. I think that the
7 rationale for phasing is what I described previously
8 which is we're more advanced on the Phase I part of the
9 Project versus Phase II.

10 Q. Okay. One more from me. Staff in their
11 recommended revisions to the amended financing condition
12 that Grain Belt is asking for, Staff suggested that
13 Grain Belt not start construction on Phase I until you
14 receive the financing for both phases. Am I stating
15 that correct? I'm looking at Staff counsel to make sure
16 I said that correct.

17 MR. PRINGLE: If phasing is approved, then we
18 don't have anything in there about having to get both
19 phases financed at once if phasing is approved. We do
20 think that one phase is all that's needed. But if
21 phasing is approved, we don't have anything about Phase
22 I and Phase 2 being financed together.

23 JUDGE DIPPELL: Thank you for that
24 clarification. I think I read that wrong.

25 BY JUDGE DIPPELL:

1 Q. Are there any -- Are there any fees that would
2 be incurred for Phase II financing if -- never mind.
3 Strike that. I've already asked the question I think or
4 you've already given me the answer I was looking for.

5 Mr. Chairman, you had some follow ups.

6 CHAIRMAN RUPP: I did. Thank you, Judge.
7 Your line of questioning kind of brought to memory.

8 QUESTIONS

9 BY CHAIRMAN RUPP:

10 Q. In your conversations with the Judge and her
11 questions, you were discussing getting financing for the
12 different phases. Was the reason you're breaking the
13 Project into phases so that you can generate revenue
14 sooner?

15 A. I don't think that that's a key driver. I
16 think it's factually correct. But for Invenergy if we
17 have all of the necessary components to build a Project,
18 which means we also have secured the financing, then we
19 want to start building it. We want to get MW in the
20 ground. We want to start, you know, having these assets
21 perform and, you know, passing along the benefits as we
22 envision them. So there's really no reason to wait for
23 Phase II if we're ready to go on Phase I.

24 Q. In any of your conversations with financing
25 authorities or companies that would provide financing,

1 was it recommended by them that you should break into
2 two phases to prove out the concept and generate
3 revenue?

4 A. I don't recall that being part of the
5 discussion.

6 Q. Do you believe or Invenergy believe that
7 having Phase I generating revenue would provide better
8 financing terms for Phase II?

9 A. No, I would say that the financing terms are
10 largely driven by the technology, which will be the
11 same, and the market conditions at the time, which we
12 don't control.

13 CHAIRMAN RUPP: Thank you, Judge.

14 JUDGE DIPPELL: Are there any other Commission
15 questions? All right then. Is there further
16 cross-examination based on questions from the bench from
17 MEC?

18 MS. WHIPPLE: No, Your Honor. Thank you.

19 JUDGE DIPPELL: Sierra Club.

20 MS. RUBENSTEIN: No, thank you.

21 JUDGE DIPPELL: Renew Missouri.

22 MS. GREENWALD: No, thank you.

23 JUDGE DIPPELL: Clean Grid Alliance.

24 MR. BRADY: No, thanks.

25 JUDGE DIPPELL: Public Counsel.

1 MR. WILLIAMS: Thank you, no.

2 JUDGE DIPPELL: Staff.

3 MR. PRINGLE: Yes, Judge.

4 FURTHER CROSS-EXAMINATION

5 BY MR. PRINGLE:

6 Q. Ms. Shine, just one question for you.

7 Assuming that phasing is approved, if something were to
8 happen that would prevent the Company from constructing
9 Phase II, would the Company attempt to seek any kind of
10 cost recovery from nonparticipants for Phase I?

11 A. Can you repeat the question?

12 Q. Yes. Assuming that phasing is approved by the
13 Commission, if something were to happen that would
14 prevent the Company from constructing Phase II so all we
15 have is Phase I, would the Company seek to recover any
16 costs from nonparticipants, nonsubscribers to the line?

17 A. No.

18 MR. PRINGLE: Thank you.

19 JUDGE DIPPELL: MLA.

20 MR. AGATHEN: No, Your Honor.

21 JUDGE DIPPELL: Ag Associations.

22 MR. HADEN: No, Your Honor.

23 JUDGE DIPPELL: Mr. Hollander.

24 MR. HOLLANDER: No, Your Honor.

25 JUDGE DIPPELL: Ms. Stemme.

1 MS. STEMME: No questions.

2 JUDGE DIPPELL: Associated Industries.

3 MR. ELLINGER: No, thank you.

4 JUDGE DIPPELL: Is there redirect from Grain
5 Belt?

6 MS. CALLENBACH: Just a very small amount,
7 Judge. Thank you.

8 REDIRECT EXAMINATION

9 BY MS. CALLENBACH:

10 Q. Ms. Shine, do you recall earlier in your
11 conversation with Staff counsel he was asking you about
12 the definition of material change proposed by Staff. Do
13 you recall that line of questioning?

14 A. Yes, I do.

15 Q. And he asked whether change in a half billion
16 dollars is a material change in design and engineering;
17 is that an accurate restatement of his questions?

18 A. I believe so, yes.

19 Q. Could there be a change in Project costs that
20 is unrelated to design and engineering?

21 A. Yes.

22 Q. When you were questioned by Mr. Agathen from
23 MLA, do you recall a series of questions about a 25 MW
24 contract with an entity called Realgy?

25 A. Yes.

1 Q. And I believe you indicated that the Realgy
2 contract is not currently within the financial model; is
3 that correct?

4 A. That's right.

5 Q. And it is not in the model. Why is it not in
6 the model?

7 A. Because my understanding of that contract is
8 that it's just an option agreement. So we are focused
9 on signing up committed capacity, and that does not fit
10 within what we're looking for so we're not including it
11 in our model.

12 MS. CALLENBACH: No further redirect, Judge.
13 Thank you.

14 JUDGE DIPPELL: I believe that concludes your
15 testimony then, Ms. Shine. Thank you.

16 THE WITNESS: Thank you.

17 (Witness excused.)

18 JUDGE DIPPELL: Okay. I want to take Staff's
19 witness out of order since he's only available today. I
20 want to be sure that we get his testimony in. So we're
21 going to switch gears a little bit and go to Staff's
22 witness, Mr. Cunigan.

23 I think that's just there for future
24 reference. It's a copy of the Amended Report and Order.
25 Do you solemnly swear or affirm that the testimony

1 you're about to give at this hearing will be the truth?

2 THE WITNESS: Yes.

3 JUDGE DIPPELL: Thank you. If you could spell
4 your name for the court reporter, please.

5 THE WITNESS: Cedric, C-e-d-r-i-c, and Cunigan
6 is C-u-n-i-g-a-n.

7 JUDGE DIPPELL: Go ahead, Mr. Pringle.

8 MR. PRINGLE: Thank you, Judge.

9 CEDRIC CUNIGAN,

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

12 DIRECT EXAMINATION

13 BY MR. PRINGLE:

14 Q. Mr. Cunigan, by who are you employed and in
15 what capacity?

16 A. The Missouri Public Service Commission, and
17 I'm a Senior Professional Engineer.

18 Q. And did you contribute to Staff's Report in
19 this case which has been previously marked as Exhibit
20 109?

21 A. Yes.

22 Q. Did you also submit rebuttal testimony in this
23 case that has been previously marked as Staff Exhibit
24 101?

25 A. Yes.

1 Q. At this time, do you have any corrections to
2 the Staff Report or your rebuttal testimony?

3 A. I have a correction to the rebuttal testimony.

4 Q. And could you direct us to the page and line
5 number, please?

6 A. This would be page 1. It starts at line 22.
7 The sentence starts finally, I recommend that the
8 Commission order the Company to provide documentation
9 that all relevant permits -- right there we are adding
10 and Missouri specific environmental studies -- and then
11 it would continue have been received prior to approval.

12 Q. Are there any further corrections or additions
13 to your testimony at this time?

14 A. There would be a similar change on page 6,
15 line 20. Staff recommends that the Commission order the
16 Company to provide documentation that all relevant
17 permits -- we would add there and Missouri specific
18 environmental studies -- again have been received prior
19 to approval.

20 Q. Thank you, Mr. Cunigan. Are there any other
21 additions or corrections?

22 A. No.

23 Q. If I asked you the same questions today within
24 your rebuttal testimony, would your answers be the same?

25 A. Yes.

1 Q. Are those answers true and correct to the best
2 of your knowledge and belief?

3 A. Yes.

4 MR. PRINGLE: Thank you, Mr. Cunigan. At this
5 time, I offer exhibit, Staff Exhibit 101 into the
6 record.

7 JUDGE DIPPELL: Would there be any objection
8 to Exhibit 101? Seeing none, I will admit that.

9 (STAFF'S EXHIBIT 101 WAS RECEIVED INTO
10 EVIDENCE AND MADE A PART OF THIS RECORD.)

11 JUDGE DIPPELL: Would it be possible for Staff
12 to also submit a corrected version of Exhibit 101 with
13 those corrections added?

14 MR. PRINGLE: Yes, we can do that, Judge
15 Dippell. Not a problem.

16 JUDGE DIPPELL: Similar to what we did with
17 the other witness's testimony. That way it will be one
18 document and we won't have to look at the transcript for
19 the wording of the testimony. So that is received.

20 MR. PRINGLE: Thank you, Judge. At this time
21 I tender Mr. Cunigan for cross-examination.

22 JUDGE DIPPELL: Is there cross-examination
23 from MLA?

24 MR. AGATHEN: No, Your Honor.

25 JUDGE DIPPELL: The Ag Associations.

1 MR. HADEN: No, Judge.

2 JUDGE DIPPELL: Mr. Hollander.

3 MR. HOLLANDER: No, Your Honor. Thank you.

4 JUDGE DIPPELL: Ms. Stemme.

5 MS. STEMME: No questions.

6 JUDGE DIPPELL: Public Counsel.

7 MR. WILLIAMS: Thank you, no.

8 JUDGE DIPPELL: Associated Industries.

9 MR. ELLINGER: No questions.

10 JUDGE DIPPELL: Sierra Club.

11 MS. RUBENSTEIN: No questions. Thank you.

12 JUDGE DIPPELL: Renew Missouri.

13 MS. GREENWALD: No, thank you.

14 JUDGE DIPPELL: Clean Grid Alliance.

15 MR. BRADY: No cross.

16 JUDGE DIPPELL: MEC.

17 MS. WHIPPLE: No, Your Honor. Thank you.

18 JUDGE DIPPELL: Is there anything from Grain

19 Belt?

20 MS. CALLENBACH: No, thank you, Judge.

21 JUDGE DIPPELL: I guess I should have asked
22 that question before we began. I have a couple
23 questions for you. Are there other questions from the
24 Commission? Mr. Chairman.

25 CHAIRMAN RUPP: Thank you, Judge. Good

1 afternoon.

2 THE WITNESS: Good afternoon.

3 QUESTIONS

4 BY CHAIRMAN RUPP:

5 Q. Grain Belt's witness Stelzleni's surrebuttal
6 testimony on page 4 indicates that Grain Belt responded
7 to Staff's DR No. 50.1. Was that response adequate in
8 your opinion?

9 A. The response provided studies that they had
10 already received or completed at that point, but there
11 were some that were set for the future. She did write
12 in that response that they would supplement it as
13 necessary. So I would say it was adequate, but there
14 are still ongoing studies that we would want to see as
15 well.

16 Q. Okay. Does Staff have any continuing concerns
17 about the endangered species located along the Grain
18 Belt or Tiger Connector route as a result of the DR
19 responses?

20 A. There was some concern with the Indiana bat
21 habitat. But at this point, it wouldn't be up to Staff
22 to make that determination. It would be the other
23 regulatory bodies and we would follow along with
24 whatever permitting they required them to do.

25 Q. Does Staff have any continuing concerns that

1 Grain Belt be able to meet all the environmental
2 compliance requirements?

3 A. With the information we have so far, no, but
4 again there's still studies that are ongoing that we
5 haven't seen yet.

6 Q. And witness Andrew Burke in his surrebuttal on
7 pages 1 and 2 responds to your question related to
8 weighting given to the different guidelines on the routing
9 study. Were your questions addressed and would you
10 respond to his response at all? Do you feel like you
11 need to?

12 A. I do not have that in front of me. Can
13 someone give me a copy?

14 MR. PRINGLE: Providing the witness a copy of
15 Mr. Burke's surrebuttal.

16 THE WITNESS: What page was that again, sir?

17 BY CHAIRMAN RUPP:

18 Q. Pages 1 and 2. I think he's responding to
19 your questions related to the weighting given to the
20 different guidelines on the routing study.

21 JUDGE DIPPELL: That may be numbered
22 differently. My copy is numbered a little differently.
23 I think it's on pages 3 and 4.

24 CHAIRMAN RUPP: Pages 3 and 4.

25 THE WITNESS: Okay. Can you restate your

1 question?

2 BY CHAIRMAN RUPP:

3 Q. Were your questions addressed, number one, and
4 number two, do you feel that you need to respond to
5 anything in here?

6 A. They responded to the question. Typically
7 what I'm used to seeing is more of a you get some kind
8 of a spreadsheet typically or ranking that shows like
9 how these factors weighed into their decisions. We
10 didn't receive that in this case. They did provide the
11 report that explained what they did, but the weighting
12 or how important each factor was we weren't able to get
13 that from them. I don't have the DR in front of me.
14 They did respond that it was not weighted, but typically
15 you see something in their decision process that shows
16 how things were ranked or how they came to that decision
17 with a little more detail.

18 Q. So the Company statement was not weighted, but
19 in your professional experience weighting factors into
20 these decisions in these cases?

21 A. I mean, typically, yes, it does. You have
22 things that matter more to you that have more importance
23 when you're making a decision like this, and we weren't
24 able to see how that was broken out for them.

25 CHAIRMAN RUPP: That's all I have. Thank you.

1 JUDGE DIPPELL: Thank you, Mr. Chairman. I
2 think Mr. Chairman asked all the questions I was looking
3 at. Are there any other Commission questions? All
4 right then. Are there any further cross-examination
5 questions based on questions from the Chairman from MLA?

6 MR. AGATHEN: No, Your Honor.

7 JUDGE DIPPELL: Let me just ask in general
8 instead of running through all 13. Would anybody have
9 any cross-examination questions based on that question
10 or those questions? Not hearing any. Would there be
11 any redirect based on those questions?

12 MR. PRINGLE: No redirect, Judge. Thank you.

13 JUDGE DIPPELL: All right. Thank you,
14 Mr. Cunigan.

15 THE WITNESS: Thank you.

16 JUDGE DIPPELL: Your testimony is completed.
17 Maybe this start a trend.

18 THE WITNESS: Does that mean I'm excused for
19 the rest of the hearing?

20 JUDGE DIPPELL: You are excused.

21 (Witness excused.)

22 JUDGE DIPPELL: Okay. We can go back to --
23 let's see. Yeah, we can go back to where we were.
24 Grain Belt, do you want to call your next witness?

25 MS. CALLENBACH: Yes. Grain Belt calls Carlos

1 Rodriguez.

2 JUDGE DIPPELL: Mr. Rodriguez, do you solemnly
3 swear or affirm that the testimony you're about to give
4 at this hearing will be the truth and the whole truth?

5 THE WITNESS: Yes, I do.

6 JUDGE DIPPELL: Thank you. If you could spell
7 your name for the court reporter, please.

8 THE WITNESS: Carlos, C-a-r-l-o-s, Rodriguez,
9 R-o-d-r-i-g-u-e-z.

10 JUDGE DIPPELL: Go ahead, Counsel.

11 MS. CALLENBACH: Thank you. Good afternoon.

12 THE WITNESS: Hello.

13 CARLOS RODRIGUEZ,
14 having been first duly sworn, was examined and testified
15 as follows:

16 DIRECT EXAMINATION

17 BY MS. CALLENBACH:

18 Q. You stated your name already. Would you
19 please give your business address for the record,
20 please?

21 A. It's 1 South Wacker, Suite 1800, Chicago,
22 Illinois 60606.

23 Q. And by whom are you employed and what is your
24 title?

25 A. Invenergy LLC. I'm Senior Vice President of

1 Interconnections and Grid Analysis.

2 Q. And are you the same Carlos Rodriguez who
3 filed direct testimony which has been marked as Exhibit
4 7, surrebuttal testimony which has been marked as
5 Exhibit 8 and Schedules CR-1 through CR-3?

6 A. Yes.

7 Q. Do you have any corrections to your testimony
8 at this time?

9 A. No.

10 Q. If I were to ask you the same questions again
11 today, would your answers be the same?

12 A. Yes.

13 MS. CALLENBACH: Thank you. Judge, at this
14 time I'd move for the admission of Exhibit 7 and 8 and
15 Schedules CR-1 through 3.

16 JUDGE DIPPELL: And Exhibit 7, some of those
17 schedules contain confidential information, correct?

18 MS. CALLENBACH: Yes, they do.

19 JUDGE DIPPELL: So are there any objections to
20 Exhibit 7 including 7-C and Exhibit 8? Seeing no
21 objections, I will admit those.

22 (COMPANY EXHIBITS 7, 7-C AND 8 WERE RECEIVED
23 INTO EVIDENCE AND MADE A PART OF THIS RECORD.)

24 MS. CALLENBACH: And we would tender the
25 witness for cross.

1 JUDGE DIPPELL: All right. Would there be any
2 cross-examination from MEC?

3 MS. WHIPPLE: Yes, Your Honor. Briefly.
4 Thank you. Good afternoon, Mr. Rodriguez.

5 THE WITNESS: Hello.

6 CROSS-EXAMINATION

7 BY MS. WHIPPLE:

8 Q. A point that I'd like to understand a little
9 bit better, please, from your direct testimony along
10 about page 8 you testify -- I'll wait until you get
11 there.

12 A. I'm there.

13 Q. You testify that Grain Belt has made a
14 decision to change the technology in its, converter
15 technology, and you're mentioning that this change
16 technology which I'd like to understand better, VSC,
17 somehow will allow for a more robust and reliable
18 connection and also be able to provide emergency energy.
19 Could you explain what you mean by that, particularly
20 how emergency energy will be provided, please?

21 A. Sure. The first thing that I would like to
22 say is that with regard to the technology, the previous
23 technology that was used for the Project was called
24 Line-Commutated Converter. It's an HVC technology from
25 the '70s.

1 JUDGE DIPPELL: Mr. Rodriguez, did you say
2 what kind of technology?

3 THE WITNESS: LCC, line-commutated converter.
4 So that's a technology that is from the '70s. What
5 we're proposing now is called voltage source converter
6 or VSC, which is a new HVC technology that it's
7 basically more robust, that it can connect to weak grids
8 as we call them that don't have a lot of thermal
9 generation. It can provide voltage support which LCC
10 was not able to, and it can reverse power faster. So to
11 your point in the case of an emergency, the Grain Belt
12 Project should be able to reverse power very quickly
13 depending on the end of the line that is under an
14 emergency.

15 Q. So for example, would that have been helpful
16 in some of these terrible storms that we've had here in
17 the last couple of years to be able to reverse that
18 power?

19 A. Yes. Specifically Winter Storm Uri. Had
20 Grain Belt been there and power could have come from the
21 regions that were not experiencing the winter storm,
22 that would have helped significantly to address the
23 emergency that was going on. It would have helped
24 mitigate the very high prices that were being
25 experienced and, of course, it would have avoided loss

1 of load. So definitely.

2 MS. WHIPPLE: Thank you, Your Honor. That's
3 all I had. Thank you, Mr. Rodriguez.

4 THE WITNESS: Thank you.

5 JUDGE DIPPELL: Is there any cross-examination
6 from Sierra Club?

7 MS. RUBENSTEIN: No, thank you, Your Honor.

8 JUDGE DIPPELL: Renew Missouri.

9 MS. GREENWALD: No, thank you.

10 JUDGE DIPPELL: Clean Grid Alliance.

11 MR. BRADY: No cross.

12 JUDGE DIPPELL: Public Counsel.

13 MR. WILLIAMS: Thank you, no.

14 JUDGE DIPPELL: Staff.

15 MR. PRINGLE: Yes. Thank you, Judge. Good
16 afternoon, Mr. Rodriguez.

17 THE WITNESS: Hello.

18 CROSS-EXAMINATION

19 BY MR. PRINGLE:

20 Q. And I just want to ask you a few questions
21 about your response to Mr. Stahlman's recommendation of
22 a definition of material change. I guess in your
23 opinion you do not believe that a material change
24 definition is required; is that correct?

25 A. From an interconnection perspective and from a

1 project perspective I believe that a change in the POI,
2 point of interconnection, or an increase in the size of
3 the injection would definitely be a material change and
4 I think that's one of the reasons why we're here. But
5 to that end, I do believe that those would be material
6 changes. But I don't feel that there's a requirement or
7 a definition should be included.

8 Q. But for those two you just discussed, do you
9 believe it would be helpful to have that defined in the
10 Commission's Order in case we need any future
11 proceedings?

12 A. For the increase of injection, I do believe
13 that yes, because when you increase injection beyond
14 what you have in your contracts, you need to start the
15 process over. So you start from scratch through the
16 interconnection process, and to me that would be
17 material change. But also if you're increasing the
18 injection, you're changing the design, the engineering
19 of the converter, right, in this case. So if you're
20 going to inject more, then you're going to need a bigger
21 converter which is going to require changes in
22 engineering. So definitely from that perspective I
23 think that would be a material change and I would agree
24 that, you know, when engineering changes are.

25 Q. Okay. Thank you for that, Mr. Rodriguez.

1 Also, so at this time are you aware that is there any
2 TCA signed by Grain Belt and any party?

3 A. By TCA you mean interconnection agreement?

4 Q. Yes, transmission interconnection agreement,
5 yes, sir.

6 A. There is one interconnection agreement, a
7 transmission interconnection agreement executed with
8 SPP. There is another interconnection agreement
9 executed with AECI. And we expect to execute the TCA
10 with MISO in the July time frame.

11 Q. Could you just for the Commission's
12 clarification, when were the SPP and AECI ones executed?

13 A. So the SPP was executed in 2016. The AECI
14 executed in, I believe, December 21, if I'm not
15 mistaken. Yeah.

16 MR. PRINGLE: Thank you, sir. No further
17 questions.

18 THE WITNESS: Thank you.

19 JUDGE DIPPELL: Is there cross-examination
20 from MLA?

21 MR. AGATHEN: Yes, thank you, Your Honor.
22 Good afternoon, Mr. Rodriguez.

23 THE WITNESS: Hello.

24 CROSS-EXAMINATION

25 BY MR. AGATHEN:

1 Q. You provided an update to the expected costs
2 of all of the network upgrades in your answer to our
3 Data Request No. 39, G39; is that correct?

4 A. Yes.

5 MR. AGATHEN: Your Honor, at this time I'm
6 going to distribute a copy of our question and answer to
7 Mr. Rodriguez G39 and ask that it be marked for
8 identification as I think Exhibit 302.

9 JUDGE DIPPELL: That is correct. And is there
10 -- This is not any confidential information, correct?

11 MR. AGATHEN: It is not.

12 JUDGE DIPPELL: I marked that Exhibit 302.

13 MR. BRADY: Thank you.

14 JUDGE DIPPELL: Did you give one of those to
15 the court reporter, Mr. Agathen? Okay. Thank you.

16 BY MR. AGATHEN:

17 Q. Mr. Rodriguez, have you taken a chance to look
18 at Exhibit 302?

19 A. You mean this?

20 Q. Yes, the document I just handed to you.

21 A. Yes.

22 Q. Is that document an accurate copy of your
23 response to our Data Request No. G39?

24 A. Yes.

25 Q. And looking at the bottom line of that

1 document, does it indicate that the total for all
2 network upgrade costs which you list there is now
3 estimated at just over 788 million?

4 A. Correct.

5 MR. AGATHEN: Your Honor, I ask that Exhibit
6 302 be received in evidence.

7 JUDGE DIPPELL: Would there be any objection
8 to Exhibit 302? Seeing no objection, I will admit it.

9 (MLA EXHIBIT 302 WAS RECEIVED INTO EVIDENCE
10 AND MADE A PART OF THIS RECORD.)

11 MR. AGATHEN: Thank you, Your Honor.

12 BY MR. AGATHEN:

13 Q. Is that total figure of 788 million still
14 accurate or does the total cost need to be updated
15 again?

16 A. It needs to be updated again. Actually in my
17 surrebuttal I included updated values. So it didn't
18 change much. So it's still -- I believe it's 760
19 something but it went down a little. And in my
20 surrebuttal, it's basically listed on an RTO -- per RTO
21 basis.

22 Q. Thank you. In addition to the costs that
23 appear on Exhibit 302, you still have two other queue
24 positions in PJM for which no network upgrade costs have
25 yet been estimated?

1 A. Correct. We do have two positions -- four
2 positions in PJM that two of the four have
3 interconnection costs identified. But in the previous
4 PJM serial process, so those two requests completed a
5 feasibility study and a system impact study and the
6 other two requests have not started studies. So for
7 those we do have those costs and they are included in my
8 surrebuttal. And they're included here in this exhibit.
9 But those would likely change because of the queue
10 reform process that PJM went through and was approved by
11 FERC I believe in January of this year, so those costs
12 would likely change.

13 Q. So if I understand correctly, there are four
14 PJM interconnections involved?

15 A. Yes.

16 Q. And are the costs of all four of those,
17 current costs recognizing they're going to change, are
18 they included in this exhibit that I handed you?

19 A. Two of the four.

20 Q. Okay. So two of them are not included?

21 A. Correct.

22 Q. Are two of them not included as well in your
23 surrebuttal testimony?

24 A. Correct.

25 Q. Okay. So we've got two sitting out there

1 somewhere where no cost has been identified?

2 A. Yeah, because the costs are unknown, there's
3 been no studies.

4 Q. Understand. Do you know what the total
5 current expected costs for the upgrades associated with
6 connecting the Grain Belt line to the MISO system is?

7 A. Yes.

8 Q. Do you have that figure handy?

9 A. May I look into my surrebuttal?

10 Q. You certainly may.

11 A. So for the MISO system, we have the two
12 requests that went through the MHCP process, and those
13 costs, those phase are completed and the cost for those
14 are 144,248,000. So that's the transmission to
15 transmission or merchant transmission connection process
16 that MISO has. Now, in order to inject into MISO, you
17 need to go through Attachment X, that other process, and
18 those upgrades associated with the injection are
19 \$154,959,241. So those are the costs associated with
20 the MISO interconnections.

21 Q. And that would not include the costs
22 associated with interconnecting with Associated
23 Electric?

24 A. Correct.

25 MR. AGATHEN: That's all I have, Your Honor.

1 JUDGE DIPPELL: Thank you. Is there
2 cross-examination from the Agricultural Associations?

3 MR. HADEN: No, Your Honor.

4 JUDGE DIPPELL: Mr. Hollander.

5 MR. HOLLANDER: No, Your Honor. Thank you.

6 JUDGE DIPPELL: Ms. Stemme.

7 MS. STEMME: No questions.

8 JUDGE DIPPELL: Associated Industries.

9 MR. ELLINGER: No questions, Judge.

10 JUDGE DIPPELL: Are there questions from the
11 Commission? Mr. Chairman.

12 CHAIRMAN RUPP: Thank you, Mr. Rodriguez.

13 THE WITNESS: Hello.

14 QUESTIONS

15 BY CHAIRMAN RUPP:

16 Q. Attorneys always say you're never supposed to
17 ask a question you don't know the answer to. I am not
18 an attorney and I did stay at a Holiday Inn Express last
19 night. (Laughter) I'm going to ask you to just walk me
20 through, because I cannot remember. The SPP
21 interconnection agreement that you guys have from 2016,
22 if you're breaking this into phases, does that affect
23 that agreement at all?

24 A. So that agreement would be part of Phase I and
25 II. So that agreement includes both phases. So in that

1 regard, yeah, it's required for the connection of Phase
2 I and Phase II.

3 Q. Does that require you to have to go back to
4 SPP and update the agreement if you split into two
5 phases?

6 A. No.

7 Q. Okay. And how long is that agreement viable
8 for since this is already, what year are we in, already
9 seven years ago. Is there a time limit on that of which
10 it expires or it has to be renewed?

11 A. So the agreement is being updated as we speak
12 to account for cost updates, schedule updates since, you
13 know, it's been a few years. So we're working with ITC
14 and going through those updates.

15 Q. When do you anticipate that to be finalized?

16 A. It should be completed this year.

17 CHAIRMAN RUPP: Thank you, Judge.

18 JUDGE DIPPELL: Thank you. Are there other
19 Commission questions? Commissioner Holsman.

20 QUESTIONS

21 BY COMMISSIONER HOLSMAN:

22 Q. Going back off of what the Chairman was
23 talking about with SPP, you in your testimony talked
24 about meeting with the SPP transmission working group.
25 Would you characterize those interactions as regulatory

1 impediment that would cause unforeseen delays or
2 communications productive and largely process
3 orientated?

4 A. Can you repeat the question, please.

5 Q. Yeah, the communications you've had with the
6 transmission working group, would you consider those to
7 be a regulatory impediment or would you consider them to
8 be productive and largely process orientated?

9 A. Yes. So they are productive, process
10 oriented, and we're working with the transmission
11 working group to update the size of the project from 4
12 to 5 gigawatts, also to update the technology to voltage
13 source converter, and these studies are just going to
14 look at the behavior or the impact of the 5 gigawatt
15 project into the SPP system. So the study was
16 previously done for 4 gigawatts and the LCC technology.
17 So this one is basically addressing the 5 gigawatts and
18 the new technology.

19 Q. Did any of the TWG or the utilities that were
20 participating in that working group express an interest
21 or an opportunity to inject or withdraw capacity into
22 the line upgrade?

23 A. From an interconnection perspective, the study
24 is being done with zero interchange with SPP. So it
25 would be just a connection. So this study, what this

1 study is addressing is the connection to SPP but not
2 injection or withdrawal from SPP. So those studies
3 would be done in the future if any customer, you know,
4 would be interested in withdrawing or injecting into SPP
5 or under emergency conditions, you know, if there's an
6 agreement to inject into SPP or withdraw from SPP to
7 help, for example, MISO or PJM in an emergency.

8 Q. Talking about MISO, AECI and PJM, are there
9 any additional anticipated project study costs
10 associated with the RTO interconnection process that
11 will have an impact on the project in Missouri that you
12 haven't mentioned in your testimony?

13 A. No. Those are the costs for MISO and AECI.
14 There's one study, a facility study that is pending that
15 we're going to get it from MISO this month. And that
16 would be basically the final costs for MISO for the
17 project, for the connection to MISO, because AECI has
18 already finalized the cost some time ago.

19 Q. One of the significant project modifications
20 is to move the converter station. Changing the location
21 allows for two point of interconnection to both Ameren
22 and AECI's territory. Can you describe the impact on
23 reliability and resilience this modification would
24 cause?

25 A. So from a system perspective, a connection to

1 this point is appropriate based on the amount of the
2 injection. So the McCredie substation has four 345 KV
3 outlets, so it's a strong point of interconnection. The
4 Burns substation has two additional outlets. So from a
5 reliability perspective, I think that having an
6 injection of power in that area of the system with a
7 system that is well meshed I think would help to improve
8 the reliability of the system.

9 Q. Then what about the number of Missourians that
10 would benefit from the Project as compared to the
11 initial Project in terms of a magnitude in value? Do
12 you see an opportunity to increase the number of
13 Missourians because of this change?

14 A. Correct. And the connection to MISO and AECI
15 to both separate balancing authorities is key because
16 then you can access the AECI footprint and the MISO
17 footprint with no additional transmission charges or
18 pancake rates. So you basically connect directly to
19 AECI and you're there, connect directly to MISO you're
20 there, to any MISO customer. So from that perspective
21 it's, of course, going to impact more people in Missouri
22 and it's going to be beneficial.

23 Q. I happen to be the SEAMS liaison for our
24 Commission to MISO and OMS. And so we talk a little bit
25 about this from time to time. My question to you would

1 be what kind of communication have you seen when it
2 comes to the SEAMS? You mentioned -- let me put it
3 specifically as an example. You mentioned that the
4 transmission line could reverse flow in times of winter
5 storms or summer outages. What kind of communication
6 would you see as necessary for the RTOs to cooperate
7 with that reverse flow? Do you see that as being
8 something that would be already in place as a practice
9 or a standard operating procedure or is that something
10 that you're going to have to negotiate at the time when
11 you need the power to reverse flow with the SEAMS as it
12 travels across so we avoid pancaking?

13 A. Yeah. So Grain Belt being an interregional
14 HVDC project, it's going to be sort of like a new type
15 of project that in my view it's going to require new
16 agreements, new types of communications in order to
17 coordinate this piece of equipment that is very
18 different than the normal AC transmission lines that
19 connect the RTOs and the SEAMS. So in this case it's
20 going to be in my view new agreements required for
21 emergency conditions so as to have the power be reversed
22 timely.

23 Q. So you would think that those would be a
24 perpetual document, a preexisting standard operating
25 procedure between the RTOs that could be called upon in

1 times of emergency and that would not need to be real
2 time negotiated or discussed at the point when we needed
3 the power?

4 A. I think so. It could be an agreement with
5 Grain Belt and the RTOs to see how Grain Belt is going
6 to assist in an emergency, either RTO, because in the
7 case of SPP with a Winter Storm URI could have been PJM
8 or MISO that could have provided assistance and with
9 Elliott could have been the other way around.

10 Q. My last question, we talked earlier with
11 another witness about the cap and trade and carbon
12 taxing as being sort of a prospective hypothetical, you
13 know, cost factor. To your knowledge, has anybody
14 looked at what those savings would have been had Grain
15 Belt existed during URI, because I know that we did a
16 pretty large securitization order for the utilities that
17 had exorbitant costs during that storm. Has anybody
18 reviewed what those costs would have been had Grain Belt
19 been in existence?

20 A. Yes. And witness Mr. Baker, I think he's
21 going to provide some information on those values.

22 COMMISSIONER HOLSMAN: Okay. All right.
23 Thank you. Thank you, Judge.

24 JUDGE DIPPELL: Commissioner Kolkmeyer.

25 COMMISSIONER KOLKMEYER: Thank you, Judge.

1 Good afternoon, Mr. Rodriguez.

2 THE WITNESS: Hello.

3 QUESTIONS

4 BY COMMISSIONER KOLKMEYER:

5 Q. Help me in my mind think of this reverse flow,
6 and am I seeing this correctly that there's at Dodge
7 City, Kansas is where the injection point is, or that's
8 where it starts, and then the first connection is going
9 to be the Monroe converter station. Is that correct or
10 are there going to be more converter stations between
11 Dodge City and Monroe?

12 A. No. Monroe would be the first HVDC
13 connection, yes.

14 Q. Okay. Here again I'm trying to figure out I
15 asked the attorney yesterday, Grain Belt Express
16 attorney yesterday, how is this going to help SPP when
17 there's no connections there. Monroe is as far to the
18 southwest Missouri as Dodge City, Kansas is. You know,
19 help me there. If there's only going to be three
20 places, you know, the beginning, Monroe City and then
21 almost the Ohio line or eastern Illinois, how are you
22 going to reverse flow and/or how is that going to help
23 SPP? That's my question.

24 A. Okay. Yeah, so there's going to be a
25 converter station near Dodge City right there. And

1 there's going to be a connection to SPP that initially
2 is going to have zero flow. But it's going to be there.
3 The connection is going to be there. Then you're going
4 to have the converter in Monroe and then the converter
5 in the east in Illinois. So in the case of Uri and with
6 appropriate agreements in place, either MISO or PJM, I
7 mean, the flow of the line would generally go west to
8 east but in this situation the operators would talk and
9 based on that agreement they would be likely to reverse
10 the flow from the operators and then power will be
11 pulled from the PJM system and then shipped over the
12 line all the way west. Once it gets to SPP to the
13 converter station, then there's a connection, an AC
14 connection there to SPP and there the power can be
15 injected into SPP.

16 Q. Okay.

17 A. And of course, the appropriate agreements need
18 to be in place. And the other situation where Elliott
19 and PJM is in trouble, then either MISO can pull power
20 from MISO and send to PJM or the generation that is
21 descending in Kansas and Grain Belt can also help. But
22 let's say that there's not enough, at that moment
23 there's not enough wind nor not enough solar and then
24 power can be pulled from SPP at that point and sent on
25 the line. So you can see there how this for these

1 winter storms and these emergency situations having this
2 interregional line is really useful.

3 COMMISSIONER KOLKMEYER: Thank you. Thank
4 you, Judge.

5 JUDGE DIPPELL: Are there any other questions
6 from the Commission? All right. Is there any further
7 cross-examination from MEC based on questions from the
8 bench?

9 MS. WHIPPLE: No, Your Honor. Thank you.

10 JUDGE DIPPELL: Sierra Club.

11 MS. RUBENSTEIN: No, thank you.

12 JUDGE DIPPELL: Renew Missouri.

13 MS. GREENWALD: No, thank you.

14 JUDGE DIPPELL: Clean Grid Alliance.

15 MR. BRADY: No cross.

16 JUDGE DIPPELL: Public Counsel.

17 MR. WILLIAMS: Thank you, no.

18 JUDGE DIPPELL: Staff.

19 MR. PRINGLE: No further cross. Thank you,
20 Judge.

21 JUDGE DIPPELL: Missouri Landowners Alliance.

22 MR. AGATHEN: Yes, thank you, Your Honor.

23 Just a couple quick questions based on your responses
24 primarily to Commissioner Holsman.

25 FURTHER CROSS-EXAMINATION

1 BY MR. AGATHEN:

2 Q. You have an interconnection agreement in place
3 with SPP; is that correct?

4 A. Correct.

5 Q. Does that existing interconnection agreement
6 allow for the use of a 5000 MW line as opposed to the
7 original 4000 MW line?

8 A. The original interconnection agreement is for
9 4000 MW. It's being amended to increase to five.

10 Q. So you do not at this point have an
11 interconnection agreement which includes the 5000 MW
12 line?

13 A. So we're negotiating and discussing with ITC,
14 the utility, but at this point the amendment hasn't been
15 executed, correct.

16 MR. AGATHEN: Thank you, sir.

17 JUDGE DIPPELL: Ag Associations.

18 MR. HADEN: No questions, Your Honor.

19 JUDGE DIPPELL: Mr. Hollander.

20 MR. HOLLANDER: No, Your Honor. Thank you.

21 JUDGE DIPPELL: Ms. Stemme.

22 MS. STEMME: No questions.

23 JUDGE DIPPELL: Associated Industries.

24 MR. ELLINGER: No questions, Judge.

25 JUDGE DIPPELL: Is there redirect from Grain

1 Belt?

2 MS. CALLENBACH: Yes, Judge. Just very
3 briefly. Thank you.

4 REDIRECT EXAMINATION

5 BY MS. CALLENBACH:

6 Q. Mr. Rodriguez, do you recall a series of
7 questions with the Staff counsel regarding the
8 definition of material change?

9 A. Yes.

10 Q. Thank you. Could I get you to turn to page 14
11 of your surrebuttal, please.

12 A. I'm there.

13 Q. And I believe that in your discussion with
14 Mr. Pringle you testified that an increase in injection
15 rights would be a material change. Is that an accurate
16 representation?

17 A. Yes.

18 Q. One of Staff's -- Staff's definition or
19 proposed definition of material change rather is a
20 change to injection and withdrawal rights. So we've
21 covered the injection. Would you please explain Grain
22 Belt's position with regard to whether a change in
23 withdrawal rights constitutes a material change?

24 A. Yeah. So yeah, I don't think -- I believe
25 that would not be a material change. Actually in order

1 to request withdrawal from MISO, for example, you have
2 to go through Module B, which is basically the
3 transmission service tariff. So you won't be -- let's
4 see.

5 So the withdrawal would not be a material
6 change because as long as it's within the size of the
7 converter station or within the engineering parameters
8 of the converter station, if you have a 1500 MW
9 converter station and you put in a transmission service
10 request or a customer puts in a transmission service
11 request for 500 MW, it's well within the engineering
12 design of the converter station and therefore it would
13 not be a material change which as opposed to the
14 injection where you would basically have to inject more
15 than what the converter can do so it would be an
16 engineering change. Withdrawal wouldn't be in my view.

17 Q. Just to make sure that I understand. So there
18 would not be any modifications to the facilities
19 required to add withdrawal as long as it was within the
20 current parameters of engineering; is that correct?

21 A. Correct.

22 MS. CALLENBACH: Thank you. That's all we
23 have, Judge.

24 JUDGE DIPPELL: Okay. Thank you. Thank you,
25 Mr. Rodriguez. I believe that concludes your testimony

1 and you may step down.

2 THE WITNESS: Thank you.

3 (Witness excused.)

4 JUDGE DIPPELL: I think we will take advantage
5 of this spot to take a short break. I have that it is
6 2:11. Let's come back at 2:25. We can go off the
7 record.

8 (A recess was taken.)

9 JUDGE DIPPELL: All right. We are back on the
10 record after our break and we are up to Grain Belt's
11 next witness.

12 MS. CALLENBACH: Thank you, Judge. Grain Belt
13 calls Aaron White.

14 JUDGE DIPPELL: Do you solemnly swear or
15 affirm that the testimony you're about to give at this
16 hearing is the truth?

17 THE WITNESS: Yes, Judge.

18 JUDGE DIPPELL: Thank you. Can you spell your
19 name for the court reporter?

20 THE WITNESS: Aaron, A-a-r-o-n, White,
21 W-h-i-t-e.

22 JUDGE DIPPELL: Go ahead.

23 MS. CALLENBACH: Thank you, Judge.

24 AARON WHITE,
25 having been first duly sworn, was examined and testified

1 as follows:

2 DIRECT EXAMINATION

3 BY MS. CALLENBACH:

4 Q. Mr. White, by whom are you employed and what
5 is your title?

6 A. Invenergy LLC, Director of Transmission
7 Engineering.

8 Q. And I believe your title has changed somewhat
9 since your original testimony; is that correct?

10 A. Correct. The testimony, direct testimony
11 filed my title there was Senior Manager Transmission
12 Engineering.

13 Q. Okay. Thank you. And are you the same Aaron
14 White who filed direct testimony which has been marked
15 as Exhibit 9, surrebuttal testimony which has been
16 marked as Exhibit 10 and Schedules AW-1 through AW-5,
17 and I believe AW-5 is confidential, Judge.

18 A. Yes.

19 Q. Thank you. Do you have any corrections to
20 your testimony or schedules at this time?

21 A. I do not.

22 Q. Thank you. If I were to ask you the same
23 questions in your direct and surrebuttal testimony,
24 would your answers remain the same?

25 A. Yes.

1 MS. CALLENBACH: Judge, at this time I'd move
2 for the admission of Exhibits 9 and 10 and Schedules
3 AW-1 through AW-5.

4 JUDGE DIPPELL: And that exhibit was highly
5 confidential, correct?

6 MS. CALLENBACH: Yes.

7 JUDGE DIPPELL: Would there be any objection
8 to Exhibits 9 and 10 including 10 HC? Seeing none, I
9 will admit those.

10 (COMPANY EXHIBITS 9 AND 10 WERE RECEIVED INTO
11 EVIDENCE AND MADE A PART OF THIS RECORD.)

12 MS. CALLENBACH: Thank you. And we would
13 tender the witness for cross.

14 JUDGE DIPPELL: Let me just ask generally to
15 start will there be any cross-examination for Mr. White?

16 MS. WHIPPLE: Yes, Your Honor, briefly from
17 MEC.

18 MS. WHIPPLE: Okay. Let's begin with MEC.

19 MR. AGATHEN: I have some from MLA also.

20 MR. PRINGLE: Just a little bit from Staff,
21 Judge.

22 JUDGE DIPPELL: Okay. Thank you. Go ahead.

23 MS. WHIPPLE: Thank you, Your Honor. Good
24 afternoon, Mr. White.

25 THE WITNESS: Good afternoon.

1

CROSS-EXAMINATION

2

BY MS. WHIPPLE:

3

Q. Now we can see each other. I recall, I believe, from your prefiled testimony that you testified that DC lines do not cause GPS interference. Is my recollection correct?

7

A. That's correct along those lines.

8

Q. So here's my question. Can you tell us whether or not a DC line causes interference with cell phones?

10

11

A. That's a great question. Similar to GPS, cell phones operate at a much higher frequency than a DC line which has a zero frequency. Cell phones operate in the range of gigahertz. So again, much higher frequency than a DC line has zero frequency. Same with GPS. Higher frequencies, so very unlikely that there would be interference.

17

18

MS. WHIPPLE: That was the conclusion I was looking for. Thank you. That does make it clearer. Thank you. That was it, Your Honor. Thank you.

20

21

JUDGE DIPPELL: Any cross-examination from Sierra Club. Renew Missouri.

22

23

MS. RUBENSTEIN: No, thank you.

24

MS. GREENWALD: No, thank you.

25

JUDGE DIPPELL: Clean Grid Alliance.

1 MR. BRADY: No cross.

2 JUDGE DIPPELL: Public Counsel.

3 MR. WILLIAMS: Thank you, no.

4 JUDGE DIPPELL: Staff.

5 MR. PRINGLE: Yes, Judge. Thank you. Good
6 afternoon, Mr. White.

7 THE WITNESS: Good afternoon.

8 CROSS-EXAMINATION

9 BY MR. PRINGLE:

10 Q. Do you have a copy of your surrebuttal
11 testimony with you?

12 A. I certainly do.

13 Q. Would you turn to page 11 for me, please?

14 A. Page 11?

15 Q. Yes. Thank you, sir. And looking at lines 5
16 through 8, these are your total acreage impact?

17 A. Yes, sir.

18 Q. Could you just -- So what we have here for
19 Phase I you anticipate no more than 9 acres impacted?

20 A. So that was what was provided in the
21 surrebuttal. I do have submitted the supplemental
22 response to AW6.

23 Q. If you can -- I'm happy if you can read that
24 aloud for me.

25 A. So I recently had took a look at this and did

1 update these numbers. So for Phase I, total acres, I
2 can read it. Based on Grain Belt Express continuing
3 obligation to provide supplemental response pursuant of
4 20 CSR 4240-2.090(2)(F), Grain Belt Express provides a
5 supplemental response to MLA Data Request AW6 to update
6 the agricultural acreage impacted by the Project:

7 Missouri HVDC line, Phase I, 11.5 acres; Missouri HVDC
8 line, Phase II, 7 acres; and the Tiger Connector, 0.2
9 acres.

10 Q. And just for clarification, could you explain
11 to us the Tiger Connector is approximately 40 miles,
12 correct?

13 A. 36.

14 Q. 36. Thank you. And for Phase I, that's
15 approximately 200 miles give or take?

16 A. For in Missouri?

17 Q. Yes.

18 A. For Phase I, the HVDC line in Missouri is
19 approximately 150-mile range, I believe.

20 Q. Could you just kind of describe your math on
21 how we went from 9 acres for Phase I to .2 acres for
22 Tiger Connector. How does that work?

23 A. Sure. The Tiger Connector is 345 kV double
24 circuit transmission. What that means and why I say
25 that is because 345 kV, they're smaller structures than

1 the 600 kV. So therefore smaller structural loading.
2 There are structures that we can put on monopoles or a
3 single pier foundation. That pier foundation is what
4 was used to measure the agricultural impact. So the
5 diameter of a -- I don't recall exactly but, for
6 example, diameter of a four or six foot pier, that's
7 what would have been used for all of the structures.
8 Whereas the HVDC line, the 600 kV has a significantly
9 larger structural loading, more wires, larger spans,
10 more structural loading. It is for that reason that
11 we've selected the lattice towers. The lattice towers,
12 although they also can use piers, micropiles, helical
13 piles, a number of foundation solutions. The acreage
14 was estimated by the entire base of the tower, not just
15 the foundations. So what was used for these estimates
16 was a 40 by 40 foot footprint, not just the pier.

17 Q. Thank you, Mr. White. Just for laymen's terms
18 or for my understanding, the basic difference in the
19 acreage is due to the size of the structures for each
20 line; is that a good way of summarizing it?

21 A. It's not how I would, but yeah, if that works
22 for you. Yeah, it's different types of structures, the
23 size of structures, different type of foundations, the
24 footprint.

25 Q. When you talked about with the lattice

1 structures, in the prior Report and Order that pretty
2 much Grain Belt had put forward that only monopole
3 structures would be used, correct?

4 A. I would disagree with that. Let me pull up
5 that response in my surrebuttal. So advise and to my
6 knowledge of the Commission Report and Order remand is
7 that there were a number of structure types provided
8 that could be used but there was no Order to use any
9 specific structure. And that makes sense in that early
10 stage more design flexibility would have been ideal.

11 Q. But in the Report and Order the Commission did
12 find that Grain Belt would be using monopoles, correct?

13 A. Not to my knowledge.

14 Q. And also in your surrebuttal testimony you do
15 put forward that you believe that any change in the
16 structure, that would not be a material change in design
17 and engineering, as you say, using monopoles or lattice
18 structures? Page 9 of your testimony?

19 A. I don't believe it is. It's not a material
20 change.

21 Q. And with that being said, is there any kind of
22 guarantee that Grain Belt would not use lattice
23 structures for the AC line?

24 A. I wouldn't say there's no guarantee, but
25 lattice structures are used because they handle

1 structural loading very well, they're very efficient in
2 the frame. You know, so if there was a major river
3 crossing, there's not, but there could be other major
4 constraints that need to be spanned. There's a
5 possibility that a different type of structure may need
6 to be used. But for the majority and as the Tiger has
7 been described to date, no, no necessity to use lattice
8 towers. Did that answer your question?

9 Q. Yes. So I mean, from what you're seeing right
10 now in this current design of the Tiger Connector, there
11 is no need for lattice structures on that?

12 A. Yes, from what we're seeing right now. I
13 would preface that by just saying we're at a preliminary
14 design with the Tiger Connector, much earlier stage than
15 the main line.

16 Q. Thank you, Mr. White. Actually going more
17 towards the beginning of your surrebuttal testimony,
18 looking at page 4 it has to do with the as-built
19 drawings. I know we've had a little confusion about
20 what exactly Staff is requesting there. From your
21 perspective you said design is still pretty preliminary
22 on the Tiger Connector?

23 A. Yes.

24 Q. Then when it comes to those design drawings,
25 does the Company have any objection to supplying Staff

1 those design drawings as they are completed and before
2 construction?

3 A. So we do not object to the as-built drawings.
4 As-built drawings are just that, as it was built. So
5 that is what the Order requires and that's what we would
6 provide.

7 MR. PRINGLE: Thank you very much for your
8 time, Mr. White. That's all the questions I have.
9 Thank you.

10 JUDGE DIPPELL: Is there cross-examination
11 from MLA?

12 MR. AGATHEN: Yes, Your Honor, thank you.

13 JUDGE DIPPELL: Go ahead.

14 MR. AGATHEN: Good afternoon, Mr. White.

15 THE WITNESS: Good afternoon.

16 CROSS-EXAMINATION

17 BY MR. AGATHEN:

18 Q. Could you please turn to page 10 of your
19 direct testimony?

20 A. Yes.

21 Q. Beginning at line 21 you state that worker
22 safety and the safety of the public is Grain Belt's
23 number one priority through design, construction and
24 operations, correct?

25 A. Correct.

1 Q. But is it fair to say that no matter how much
2 attention is paid to safety, it's likely that
3 work-related accidents will occur in the construction of
4 a large transmission project?

5 A. I would disagree. I think every safety goal
6 that I've been, you know, various contractors been
7 around, the goal is no incidents. So that is what is
8 strived for. In certain project we have achieved that.

9 Q. Do you have a copy of the data requests that
10 we sent to you and your answers?

11 A. Yes.

12 Q. Could you find or have you located Data
13 Request No. AW3?

14 A. Yes.

15 Q. Does that not list a chart of OSHA recordable
16 incidences from Grain Belt construction or Invenergy
17 construction, excuse me, and Invenergy's contractors?

18 A. So what was requested is for all Invenergy
19 affiliated transmission and generation projects over the
20 past five years, OSHA incidents. What was provided in
21 that table is Invenergy generation projects North
22 America, both projects owned by Invenergy and those
23 which Invenergy has contracted to provide O&M, operation
24 and maintenance, and/or the balance of plant for the
25 owner. And then I do state in here that -- Let me find

1 it verbatim.

2 Skipped right over it. I apologize. For all
3 Invenergy high-voltage transmission work in North
4 America, there have been no OSHA recordable cases.

5 Q. But the chart lists for the years 2018, '19,
6 '20 and '21, Invenergy OSHA recordable cases, does it
7 not?

8 A. Correct.

9 Q. And it lists OSHA recordable cases for
10 contractors working for Invenergy?

11 A. Correct.

12 Q. So no matter what the goal is, accidents do
13 happen, right?

14 A. Accidents do happen.

15 Q. Thank you. On a different subject, would you
16 turn, please, to page 19 of your direct testimony.

17 A. Okay.

18 Q. Beginning at line 11, you state that a part of
19 the construction of the Kansas converter station might
20 not be built in Phase I but might be delayed until Phase
21 II. Is that essentially correct?

22 A. As stated here, a portion of the Kansas
23 converter station may be built out with Phase II in
24 which case the proportional amount would change.

25 Q. So Phase I could be fully operational without

1 this portion of the Kansas converter station; is that
2 correct?

3 A. What I'm referring to here is, it is for Phase
4 II it's our objective to minimize any disruption,
5 interference in the services of Phase I. So there would
6 be a portion of Kansas that we would likely build out to
7 accomplish that, build out for Phase II, Kansas Phase
8 II. The reason why we do that during Phase I is because
9 we want to minimize any outages or disruption of service
10 of Phase I.

11 Q. Right. But my question is Phase I could be
12 fully operational without this converter station being
13 fully built out?

14 A. Without the Phase II portion?

15 Q. Yes.

16 A. Correct.

17 Q. What amount roughly are you talking about
18 saving by not building it out completely in Phase I?

19 A. I don't know. I haven't looked at that.

20 Q. Are we talking millions or ten millions?

21 A. I don't know.

22 Q. So if Grain Belt for whatever reason, for some
23 reason does not build Phase II, it would save money in
24 that portion of the converter station in Kansas which
25 was not completed?

1 A. If Phase II was not built out, yes, there
2 would be that portion of the Kansas converter that would
3 not be required or built out.

4 Q. And you would save some unknown amount?

5 A. You wouldn't have the cost of that portion of
6 the Kansas converter.

7 MR. AGATHEN: That's all I have, Your Honor.

8 JUDGE DIPPELL: Thank you. Is there anything
9 from Agriculture Associations.

10 MR. HADEN: No, Your Honor.

11 JUDGE DIPPELL: Mr. Hollander.

12 MR. HOLLANDER: No, Your Honor.

13 JUDGE DIPPELL: Ms. Stemme.

14 MS. STEMME: No questions.

15 JUDGE DIPPELL: Associated Industries.

16 MR. ELLINGER: No questions, Judge.

17 JUDGE DIPPELL: Are there questions from the
18 Commission?

19 CHAIRMAN RUPP: None from me.

20 JUDGE DIPPELL: I just have one clarifying
21 question.

22 QUESTIONS

23 BY JUDGE DIPPELL:

24 Q. When you were talking with Staff about your
25 updated DR?

1 A. Yes.

2 Q. What was the date of that update?

3 A. That was I believe June 1. Let me check for
4 you. June 1.

5 Q. Of this year?

6 A. Yeah, of '23, yes.

7 Q. Thank you.

8 A. Last week.

9 JUDGE DIPPELL: Is it safe to assume there's
10 no follow-up questions based on my question? Okay. I'm
11 not seeing any. Is there any redirect?

12 MS. CALLENBACH: No, Judge, no redirect.

13 JUDGE DIPPELL: All right. I believe that
14 concludes your testimony, Mr. White. You may step down.

15 THE WITNESS: Thank you, Judge.

16 JUDGE DIPPELL: Grain Belt can go ahead with
17 its next witness.

18 MR. SCHULTE: For its next witness, Grain Belt
19 calls Robert Baker.

20 JUDGE DIPPELL: Can I get you to raise your
21 right hand. Do you solemnly swear or affirm that the
22 testimony you're about to give at this hearing will be
23 the truth?

24 THE WITNESS: Yes.

25 JUDGE DIPPELL: If you could state your name

1 and spell it for the court reporter, please.

2 THE WITNESS: Sure thing. Robert,
3 R-o-b-e-r-t, Baker, B-a-k-e-r.

4 JUDGE DIPPELL: I'm going to need you to get a
5 little closer to the mike.

6 THE WITNESS: Sure. How is this?

7 JUDGE DIPPELL: That's better. Thank you.
8 You can proceed, Counsel.

9 MR. SCHULTE: Thank you.

10 ROBERT BAKER,
11 having been first duly sworn, was examined and testified
12 as follows:

13 DIRECT EXAMINATION

14 BY MR. SCHULTE:

15 Q. Could you please state your place of
16 employment and title?

17 A. Guidehouse and I'm Director.

18 Q. I think I forgot to ask you for the address.
19 Can you please provide the address as well?

20 A. Sure thing. 100 King Street, Toronto,
21 Ontario, Suite 4950 M5X 1B1.

22 Q. And are you in this case adopting the direct
23 testimony of Anthony Petti?

24 A. I am.

25 Q. And his accompanying Schedules AP-1 and AP-2?

1 A. Correct.

2 Q. And did you also -- Are you the same Robert
3 Baker who filed surrebuttal testimony in this case and
4 accompanying Schedule RB-1?

5 A. I am.

6 Q. And do you have any corrections to that
7 testimony, either the direct testimony of Anthony Petti
8 or your own surrebuttal testimony or any of the
9 schedules?

10 A. I do. One minor change. On page 15 of the
11 Guidehouse report.

12 Q. Could you identify the Guidehouse report by
13 the schedule number. I believe it's AP-2?

14 A. AP-2, correct.

15 MR. SCHULTE: Thank you.

16 JUDGE DIPPELL: Is that part of the direct or
17 the --

18 MR. SCHULTE: That is part of the direct.

19 JUDGE DIPPELL: I'm sorry. Would you restate
20 the page number?

21 THE WITNESS: Sure. Page 15, Table 5.

22 BY MR. SCHULTE:

23 Q. There appears to be two -- sorry. There
24 appears to be two sets of page numbers. There's the
25 page number in the document itself and then there's a

1 red page number at the bottom. Could you identify which
2 one of those you're using?

3 A. Yes, I'll go with the red numbers on the
4 bottom, page 16 of 41, and within Table 5 on the last of
5 the West-East row it says AECI SPP. SPP should be PJM.
6 It doesn't change the results in the report.

7 Q. Thank you for that correction. With that
8 correction, if I were to ask you the same questions that
9 appear in the direct testimony of Anthony Petti and your
10 surrebuttal testimony, would your answers remain
11 substantially the same?

12 A. They would remain substantially the same.

13 MR. SCHULTE: Thank you. I move for the
14 admission of Exhibit 11, which is the direct testimony
15 of Anthony Petti, and Exhibit 12, which is the
16 surrebuttal testimony of Robert Baker, and the
17 accompanying schedules.

18 JUDGE DIPPELL: Would there be any objection
19 to Exhibits 11 or 12? Seeing none, I will admit those
20 exhibits.

21 (COMPANY EXHIBITS 11 AND 12 WERE RECEIVED INTO
22 EVIDENCE AND MADE A PART OF THIS RECORD.)

23 MR. SCHULTE: Thank you. And the witness is
24 available for cross-examination.

25 JUDGE DIPPELL: Is there any cross-examination

1 from MEC.

2 MS. WHIPPLE: No, Your Honor. Thank you.

3 JUDGE DIPPELL: Sierra Club.

4 MS. RUBENSTEIN: No, thank you, Your Honor.

5 JUDGE DIPPELL: Renew.

6 MS. GREENWALD: Just very briefly. And let me
7 turn on my camera. Good afternoon, Mr. Baker.

8 THE WITNESS: Good afternoon.

9 CROSS-EXAMINATION

10 BY MS. GREENWALD:

11 Q. In your surrebuttal you testified that the PRA
12 benefits described in the Guidehouse report are durable
13 regardless of the LRTP Tranche 1 portfolio; is that
14 correct?

15 A. That's correct.

16 Q. Could you elaborate a little bit further about
17 whether the benefits associated with Grain Belt are
18 duplicative or complementary to the benefits of the LRTP
19 Tranche 1 portfolio, please?

20 A. Sure. In the development of the Grain Belt
21 project, I'm not sure if it took into account any other
22 planning processes that were going on. I'm pretty sure
23 it did. But in terms of the work that was done with
24 LRTP, the Grain Belt injection point which resides
25 within one of the stations within MISO, it does

1 complement nicely the work that's being done within
2 MISO. In terms of the LRTP Tranche 1 work, it works on
3 -- or it looks at putting together reliable operation
4 with inside MISO. Grain Belt provides a complementary
5 benefit by bringing in power and putting it into
6 stations which are within the MISO environment and
7 during times of system upset, during normal operation
8 within the operation of the power system and within
9 other environments it provides injections of power which
10 are beneficial.

11 So for example, in terms of having power
12 coming in from let's say Kansas where the prospective
13 power will be built within Grain Belt, within the Grain
14 Belt environment, it takes this power and it distributes
15 it in a way that is beneficial within not only SPP but
16 within MISO and within PJM.

17 MS. GREENWALD: Thank you. I have no further
18 questions.

19 JUDGE DIPPELL: Anything from Clean Grid
20 Alliance.

21 MR. BRADY: No cross.

22 JUDGE DIPPELL: Public Counsel.

23 MR. WILLIAMS: Thank you, no.

24 JUDGE DIPPELL: Staff.

25 MR. PRINGLE: One moment, Judge. No

1 questions, Judge.

2 JUDGE DIPPELL: MLA.

3 MR. AGATHEN: Thank you, Your Honor. Good
4 afternoon, Mr. Baker.

5 THE WITNESS: Good afternoon.

6 CROSS-EXAMINATION

7 BY MR. AGATHEN:

8 Q. I hope you're not a rabid fan of the Toronto
9 Maple Leafs. (Laughter)

10 A. I am not.

11 Q. Fortunate for you.

12 A. I sleep well.

13 Q. You said you work for a company named
14 Guidehouse, correct?

15 A. That's correct.

16 Q. And Mr. Petti also worked for Guidehouse when
17 he submitted his direct testimony, correct?

18 A. He did.

19 Q. Looking at page 5 of your direct testimony,
20 and when I say page 5 of your direct testimony we know
21 we're talking about Mr. Petti's, right?

22 A. That's correct.

23 Q. Okay. Looking at page 5 of that direct
24 testimony beginning at line 14, you state that Grain
25 Belt engaged Guidehouse to quantify the reliability and

1 resiliency values of the Grain Belt Project for the
2 state of Missouri; is that correct?

3 A. Correct.

4 Q. And then in the middle of page 7 of your
5 testimony in the bullet points, you list seven specific
6 areas where the project would provide improvements and
7 benefits; is that correct? Page 7, lines 4 to 5?

8 A. Correct.

9 Q. And in subsequent pages you quantify the
10 dollar amount of the benefits which would be derived
11 from some of the items listed in the bullet points; is
12 that correct?

13 A. Some of the items, correct.

14 Q. Looking at page 7 of your direct testimony at
15 lines 21 to 23, you address the supposed savings which
16 could have been realized by customers in SPP from the
17 Winter Storm Uri; is that correct?

18 A. That's correct.

19 Q. That storm occurred in the year 2023; is that
20 correct?

21 JUDGE DIPPELL: I'm sorry, Mr. Agathen. Did
22 you say 2023?

23 THE WITNESS: I see February of 2021.

24 MR. AGATHEN: I stand corrected.

25 BY MR. AGATHEN:

1 Q. Obviously the Grain Belt project was not in
2 operation at that point, right?

3 A. That's correct.

4 Q. So the savings you attribute to the line are
5 hypothetical in that they assume the Grain Belt line
6 was, in fact, operational, correct?

7 A. Correct.

8 Q. Is it fair to say that your analysis did not
9 even purport to quantify the amount of the hypothetical
10 savings during Uri which would have accrued to the
11 customers in Missouri?

12 A. Can you please repeat.

13 Q. Sure. Is it fair to say that your analysis
14 did not even purport to quantify the amount of the
15 hypothetical savings during Uri, that's U-r-i, which
16 would have accrued to customers in Missouri?

17 A. So my background is as a planning engineer,
18 transmission planning engineer.

19 JUDGE DIPPELL: I'm going to need you to get a
20 little closer.

21 THE WITNESS: I'm sorry.

22 JUDGE DIPPELL: That's all right.

23 THE WITNESS: I don't want to bump this
24 computer box here. So my background is as a
25 transmission planner. And as a transmission planner,

1 one of the very solid ways that -- one of the very solid
2 steps that's taken in terms of providing mitigation for
3 known effects on the system, the development of the
4 system, the development of the system and to mitigate
5 downstream effects of making changes to the system,
6 these types of ideas are all drawn out in terms of the
7 planning of the system. And in some cases as an example
8 a person might want to stand 10 years in the future,
9 look back and say what decisions would I have made to
10 make the system reliable and resilient. In a way we can
11 do this. By looking back 10 years from now --

12 BY MR. AGATHEN:

13 Q. Sir, the question though was, did you quantify
14 the benefits that would have accrued to the state of
15 Missouri?

16 A. I'm setting up a bit of foundation for my
17 response.

18 Q. That's a yes or no question.

19 A. So it quantifies benefits, yes, for all the
20 folks that would be connected to the Grain Belt line.

21 Q. But not for state of Missouri specifically?

22 A. State of Missouri would be included in those
23 benefits, yes.

24 Q. But you did not single out the benefits which
25 would accrue to Missouri; is that correct?

1 A. That is correct.

2 Q. Thank you. Is it fair to say that your
3 analysis likewise did not purport to quantify the amount
4 of the hypothetical savings which would have accrued to
5 Missouri from the three other storms you mentioned at
6 the top of page 8 of your direct testimony?

7 A. Can you be more specific about the top of page
8 8, please.

9 Q. If I've got my cite correct, you talked about
10 three other storms which would have benefited from the
11 Grain Belt line had it been in existence.

12 A. If I understand what you're speaking by
13 looking at lines 1 and 2 on page 8 of 14, is that
14 correct?

15 Q. Yes.

16 A. The answer is yes.

17 Q. Does that mean that you did not quantify the
18 benefits from those storms for the state of Missouri?

19 A. Missouri is quantified within those results
20 and we didn't break down any of the results to a state
21 by state or other jurisdictional level.

22 Q. So you don't have an amount for Missouri
23 specifically?

24 A. That is correct.

25 Q. Thank you. On a different subject, the

1 objective of your analysis in this case was to identify
2 the benefits of the Amended Project as it's being
3 proposed in this case, correct?

4 A. This is correct.

5 Q. Did you conduct a separate analysis to
6 quantify any of the supposed benefits which would have
7 been realized from the Grain Belt Project as already
8 approved in the last case?

9 A. Could you please repeat.

10 Q. Did you conduct a separate analysis to
11 quantify any of the supposed benefits which would have
12 been realized from the Grain Belt Project as it was
13 approved in the last case?

14 A. No.

15 Q. So your analysis did not look at the
16 incremental monetary benefits of approving the Amended
17 Project vis-a-vis staying with the Project approved in
18 the last case?

19 A. The Project was based on the amended
20 parameters.

21 Q. So your answer would be no --

22 A. No.

23 Q. -- to my question?

24 A. No.

25 Q. To your knowledge, has MISO or any other FERC

1 approved RTOs determined that the Revised Grain Belt
2 Project is necessary for reliability or stability of the
3 electric grid in Missouri?

4 A. I'm not aware.

5 Q. Has MISO or any other RTO determined that the
6 Revised Grain Belt Project is needed to relieve
7 congestion on the grid?

8 A. I'm not aware.

9 Q. Are you aware of any documentation which
10 demonstrates that the Amended Grain Belt Project is the
11 least cost method of improving the reliability of the
12 bulk power system in Missouri?

13 A. Can you please repeat?

14 Q. Are you aware of any documentation which
15 demonstrates that the Amended Grain Belt Project is the
16 least cost method of improving the reliability of the
17 bulk power system in Missouri?

18 A. Not aware.

19 Q. Has Guidehouse performed any analysis or
20 studies which would show that the Amended Grain Belt
21 Project is the least cost method of achieving any of the
22 supposed benefits which you list in the bullet points at
23 page 7?

24 A. Please repeat.

25 Q. Has Guidehouse performed any studies or

1 analyses which would show that the Amended Grain Belt
2 Project is the least cost method of achieving any of the
3 seven supposed benefits which you list in the bullet
4 points at page 7 of your testimony?

5 A. No.

6 Q. One of the bullet points you list at page 7 of
7 your testimony is value of system restoration
8 capabilities; is that correct?

9 A. That's correct.

10 Q. Did your analysis look at the current costs of
11 system restoration for utilities in Missouri?

12 A. No.

13 Q. Can you turn to page 9 of your direct
14 testimony, please.

15 A. Got it.

16 Q. Beginning at line 12, you state that the Grain
17 Belt Project will mitigate additional reliability driven
18 generation capacity investments by 526 million per year;
19 is that correct?

20 A. That's correct.

21 Q. And looking at lines 17 through 19, you
22 attribute 145 million of those savings to customers in
23 Missouri of Associated Electric Co-op and 145 million to
24 customers in the MISO zone which includes Missouri; is
25 that correct?

1 A. That's what it says, yes.

2 Q. Do these figures represent your approximation
3 of the dollar amount of generating facilities which
4 would not be built in Missouri by reason of the Revised
5 Grain Belt Project?

6 A. The analysis you point to is not an avoided
7 cost valuation. I'm sorry. I misread. This is the
8 cost of new entry avoidance, yes, correct.

9 Q. So generation that would not be built?

10 A. That's correct.

11 Q. Did you quantify a comparable figure for the
12 Grain Belt Project as it was approved in the last case?

13 A. In the last case, you mean the unamended
14 Project?

15 Q. Correct.

16 A. No.

17 Q. Finally, could you turn, please, to page 10 of
18 your surrebuttal testimony.

19 A. Did you say page 10?

20 Q. Yes, of your surrebuttal.

21 A. I'm here.

22 Q. At lines 10 to 11, you mention studies
23 conducted by Invenergy and its consultants ICF, correct?

24 A. Correct.

25 Q. And the full name of ICF is ICF International?

1 A. I don't see International.

2 Q. Okay. So you don't know whether that's a part
3 of the name?

4 A. I don't.

5 Q. Is the ICF study referred to there the same
6 study which was submitted by Invenergy in support of its
7 complaint case at the FERC against MISO?

8 A. I'm not aware.

9 MR. AGATHEN: That's all I have. Thank you.

10 JUDGE DIPPELL: Thank you. Is there anything
11 from the Agricultural Associations.

12 MR. HADEN: No questions for this witness,
13 Your Honor.

14 JUDGE DIPPELL: Mr. Hollander.

15 MR. HOLLANDER: No, Your Honor.

16 JUDGE DIPPELL: Ms. Stemme.

17 MS. STEMME: No questions.

18 JUDGE DIPPELL: Associated Industries.

19 MR. ELLINGER: No questions.

20 JUDGE DIPPELL: Are there questions from the
21 bench? Mr. Chairman.

22 CHAIRMAN RUPP: Yes.

23 QUESTIONS

24 BY CHAIRMAN RUPP:

25 Q. Winter Storm Uri severely affected ERCOT in

1 that area with residual effects. Is the figures that
2 Mr. Petti came up with, the \$300 million cost savings,
3 was that just for the SPP footprint? Did that take into
4 consideration, you know, anything in ERCOT or how did
5 that -- did you geofence the savings to just -- can you
6 just walk me through that?

7 A. Sure. As much as I can. As we stated on page
8 17 of 41 of the Guidehouse report, we show Winter Storm
9 Uri as having potential savings from GBX of about \$322
10 million or thereabouts. It's been sidelined noted as
11 being PJM to SPP south. So it includes the areas that
12 would be directly related to Grain Belt. I don't
13 believe that these effects were calculated for ERCOT.
14 ERCOT appeared to be a separate calculation.

15 JUDGE DIPPELL: Mr. Baker, again, can you --
16 you're very soft spoken. So I need you just to lean
17 forward a little if you can.

18 THE WITNESS: My kids would disagree. Yes, I
19 understand.

20 JUDGE DIPPELL: Thank you.

21 BY CHAIRMAN RUPP:

22 Q. So just to follow up, the 300 and some million
23 in the report, that was the potential cost savings to
24 PJM and MISO and SPP or?

25 A. It would be inclusive of those three, and it

1 also was based on an injection of 2-1/2 gigawatts
2 through that particular area. So the idea would be used
3 that would be the amount of power that Grain Belt could
4 deliver to mitigate the effects of the storm. So it's
5 shown as a storm mitigation technique or method.

6 Q. Did that \$300 million savings that you have
7 put forward in your report, was that just loss of load,
8 the value of the loss of load or did that take into
9 consideration any of the securitization of costs that
10 utilities had sought and some were approved moving
11 forward?

12 A. It would be the avoidance of all the effects
13 of having that load not be there during the storm. So
14 it would include operational difficulties. I don't know
15 if it went as far as let's say sparing of equipment. So
16 during a storm like that there might be a transfer of
17 equipment. I don't believe it got to quite that depth.
18 That's a very fundamental detail that would only be
19 found after the fact. This would include all of the
20 losses that customers would suffer, you and I plus
21 commercial enterprises plus industry plus lost
22 opportunity during that period.

23 Q. Would it include any cost to ratepayers for
24 the amortization of those costs over time?

25 A. That's a good question. I don't know like for

1 the loss of let's say home effects, that might be
2 something that could be relatively easily taken care of
3 within a month or two. For example, spoiled food or
4 potentially damage to a home. In a commercial or an
5 industrial enterprise, that might drag forward, but I
6 don't know if those costs would be identified in this
7 type of study but that's definitely an effect. Is there
8 something I can expand on?

9 Q. I think we're talking about two different
10 things.

11 A. Could you repeat the question maybe?

12 Q. I'm working it through in my head. I'm trying
13 to ascertain, I understand the value of loss of load,
14 that value and how your -- my question just is any of
15 the financing, any of the rate of return or anything on
16 securitization, you know, of the increased cost of fuel
17 that ratepayers are going to be paying for 20 years and
18 any of those costs inside of this 300 million or is it
19 more just this is what the storm caused for loss of food
20 and increased cost of power. Is it more of a snapshot
21 or is it a full looking back at the entire effects of
22 Winter Storm Uri?

23 A. I don't know. I don't know how that was
24 calculated through the report that we relied on for
25 those numbers.

1 CHAIRMAN RUPP: Thank you.

2 THE STENOGRAPHER: Mr. Chairman, can you tell
3 me ERCOT, is that an acronym?

4 CHAIRMAN RUPP: It is an acronym. It's
5 E-R-C-O-T.

6 THE STENOGRAPHER: Thank you.

7 CHAIRMAN RUPP: It's the Texas grid.

8 JUDGE DIPPELL: Commissioner Holsman.

9 COMMISSIONER HOLSMAN: Thank you.

10 QUESTIONS

11 BY COMMISSIONER HOLSMAN:

12 Q. Thank you for your representation of Mr.
13 Petti's testimony. I've got a series of questions here.
14 I want to start with on page 6 of the Grain Belt Express
15 resiliency and reliability values that was filed as
16 AP-2. It says that Guidehouse assumed that power
17 generated facilities such as wind and solar most likely
18 paired with some form of firm energy storage resource
19 will be interconnected to the project and are capable of
20 delivering capacity through the HVDC converter stations
21 located in Kansas, Missouri and Indiana. I personally
22 am very interested in storage and firming renewable
23 resources. It seems like it's been one of the missing
24 links to unlocking the capacity of clean power. I
25 didn't recall seeing any details in the application

1 describing anything pertaining to energy storage. If
2 they exist, can you elaborate on what storage might be
3 included in this project?

4 A. This would be I would say maybe a hypothetical
5 outcome where for the purposes of doing a transmission
6 study such as this, we would take into account the full
7 phasing of the project, for example, full
8 bidirectionality. In the same vein if we had an amount
9 of generation which was nonpersistent to interruptible
10 at the terminal that we're looking at in Kansas, it
11 would make sense to park energy at times when it made
12 sense.

13 The firm commitments that Invenergy and Grain
14 Belt are looking for to be able to deliver along the
15 line, those would come first, but at times when let's
16 say it would be unusually calm or wintertime with an
17 overcast day, there would be less ability to get that
18 energy ready to go and be delivered on the line. Large
19 amounts of capacity probably on maybe an iterative
20 basis, like after the project is done how much would we
21 need, and it might be a one in three or one in five or
22 one in ten year event where the development and the
23 expansion of facilities at the terminal would allow for
24 a certain flexibility, having storage available, for
25 example. And the ability to park that energy and

1 potentially use it on the line as part of the firm
2 commitment or release it wholesale perhaps would be
3 another connection that this energy could be evacuated
4 through.

5 Q. Would you need to locate any of those storage
6 assets near the injection points?

7 A. It would depend largely on where exactly these
8 generation sites are. And as an example. If we had
9 dual use stations. For example, it turned out that in
10 one area maybe 20 miles away from the terminal it was
11 really good sun and a really good wind regime
12 historically through met data. What might happen is
13 that overnight you would have the wind do its thing.
14 You would be providing energy. In the morning, the wind
15 might historically be at a low and the sun would be
16 coming out. So you play off both of those sources'
17 energy in the same station or they might peak at the
18 same time. And this would be one of those cases where
19 using met data and the practicalities of one or two or
20 three years of experience you'd be able to start to
21 build facilities that would complement those historical
22 advantages, natural advantages.

23 Q. At this juncture, these are all hypothetical
24 discussions. You don't have any providers, utilities,
25 that have expressed interest into, you know, actually

1 creating these assets at this juncture?

2 A. Not that I'm aware of. Not from the supply
3 side.

4 Q. Mr. Petti describes his experience with energy
5 storage projects with PG&E and Puget Sound Energy. I
6 understand you're adopting his testimony. But I was
7 hoping maybe you'd be familiar with some of those
8 storage related projects or possibly others that are in
9 existence that are not hypothetical, and could you speak
10 to the details about those projects, the scale of them,
11 what materials, what technology was used, the progress
12 of how it's going, have they firmed up the power, are
13 you aware of an existing storage in your experience?

14 A. Sure. I don't have experience directly with
15 the PG&E reference that Mr. Petti made. Myself I've
16 helped with the planning of about three or 4000 MW of
17 renewable energy and have developed expansion for
18 storage devices. A couple of those have made them to
19 production but they're brand new. I don't have any
20 practical experience. But we did set up in the same way
21 I mentioned a moment ago using met data and with the
22 facilities available being able to size storage and
23 evacuation levels to complement what the met data was
24 telling us and the idea was that we would tune it and
25 calibrate it after the fact.

1 Q. This Commission has a history of supporting
2 blockstacking is the term that I might remember as a
3 storage possibility. I just wanted to point that out.
4 It looks like on page 6 of Mr. Petti's direct testimony
5 it says Guidehouse determined that the Project with
6 amended configuration could reasonably provide
7 measurable improvements to the reliability and
8 resiliency of the regional electric transmission system
9 with which the project interconnects. Are you aware of
10 whether the measurable improvements have been affirmed
11 by any external entities?

12 A. I'm sorry. I was catching up there. I was
13 looking for page 6.

14 Q. The term measurable improvements, have they
15 been affirmed by any external entities?

16 A. Not to my knowledge.

17 Q. Okay. We've talked a little bit about the 300
18 million in potential cost savings from previous storms
19 that would require for reversal of power. In earlier
20 testimony we understood that there would be an injection
21 point at Dodge City, one in Monroe and then one at the
22 end of the line in Indiana. So the idea that SPP would
23 benefit would come from the Dodge City, that MISO would
24 be -- PJM would be in Indiana. I also asked earlier if
25 there were any standard operating procedures or existing

1 communications on when, how, who would initiate an
2 emergency like that that would require this reversal of
3 power. Are you aware of any conversations that have
4 occurred that would pre-establish the rules of operation
5 for this reverse flow to occur?

6 A. No, not in this specific case. The line is
7 still under development. I have been part though of
8 development of operational protocol for when new
9 facilities come in as an operations analyst and a
10 project engineer for when new projects are actually
11 coming on the system and a parallel there would be the
12 development of the physical construction and then the
13 development of I would say concurrent requirements. So
14 if the project was maybe two months behind, it would
15 actually require a little bit different than if it was a
16 different application and two months ahead. And so when
17 sort of the two met, the actual development of the
18 project and its connection to the system, then by that
19 point the project details would be worked out for if it
20 would supply let's say ancillary services, for example,
21 whether it would be a black start candidate, those types
22 of things.

23 Q. So let's talk about hypothetical for a second.
24 Let's say that the Project is constructed and I think
25 for the purpose of this we would need both phases to

1 potentially be in place for this to work. We see an ice
2 storm is imminent. What would you see the flow of
3 communication being that would initiate? Would it need
4 to be a declaration of the state of emergency by the
5 governors of the state that would then flow backwards?
6 Would we require the RTOs to be the first ones to say
7 okay, in order for us to get this power here, we need to
8 engage the generators. What would you envision that
9 operating procedure looking like in a normative
10 environment?

11 A. So beyond a hypothetical, I have been involved
12 when projects have connected to the system. And as the
13 projects were connecting and the working groups would be
14 set up and the working groups would then start to
15 integrate what the aspects or the attributes of that
16 project are and where they would slot into I would say
17 the operational, the procedural, protocol-based effects.
18 Within MISO, I'm not familiar with the details of what
19 that would look like, but I have seen that happen
20 before. Once the project has received approval, in some
21 cases it's licensed to operate, permit for license, then
22 those invitations would be made and those working groups
23 would be set and then a number of different aspects
24 would be put in place.

25 I remember some work I did with GMD,

1 geomagnetic disturbances, and the information that would
2 flow from space weather satellites, how it would be
3 accepted by a system control center and how that
4 information would be provided to all relevant parties.
5 These are the types of things that I'm familiar with in
6 terms of how other folks, how other projects are
7 engaged.

8 Q. In a former life, I chaired the Committee on
9 Disaster Preparation for the Missouri State Senate and
10 I'm interested in your discussion of black starts and
11 how this project may help do that. Let's suggest that a
12 variety of disasters could have occurred and everything
13 from a manmade EMP, to solar flare, to New Madrid, a
14 whole host of potential risks that the grid resiliency
15 and reliability phase. In the event that a black start
16 were required, how does this project help compared to
17 not having this project?

18 A. Probably in a couple of different ways. And
19 so whenever I come to anything like a black start, I
20 always imagine an orderly shutdown even though it might
21 be a terrible thing that's happened, a horrible storm as
22 you see, an EMP, some sort of man effect going in and
23 causing damage. However, the systems are normally safe,
24 safely built to orderly shut down, and so in that
25 particular case if Grain Belt was in service, there's a

1 couple of things that we would rely on that presently
2 aren't accessible and I think back to the want and need
3 of FERC Order 1000 over the last ten years wanting
4 competitive interregional projects to be built. What
5 this does is it allows at least two things to take place
6 automatically that don't exactly exist at the moment is
7 a change in time zone, which I think was mentioned a
8 little bit earlier. I think Mr. Rodriguez pointed to
9 that, if I recall correctly, and also location. And so
10 if let's say it was a storm that was causing shutdown,
11 chances are the storm isn't large enough to effect
12 multiple RTOs at the same time. So Grain Belt could
13 draw on resources either on the PJM side, in the middle
14 or on the Kansas side. And the ability to dispatch
15 power into areas that are in the process of black
16 starting, as I think Mr. Rodriguez went through that a
17 little bit earlier, you could find cranking paths by
18 which we could look for ignition opportunities on the
19 system again. That would be very much dependent on the
20 characteristics of the outage.

21 Q. Okay. Thank you.

22 A. And also on the time-based side one of the
23 other comments mentioned earlier, I can't remember by
24 who, the time zone difference also has a benefit because
25 you might have dispatchable power in one area that may

1 not exist in another during this particular kind of
2 event.

3 Q. I want to talk a little bit about the planning
4 resource auction. I understand that it uses a one in
5 ten scale or one day in ten years loss of load
6 expectation or LOLE?

7 A. Correct.

8 Q. Given the volatility of weather and the
9 increasing extreme weather events that we've seen, is
10 the one in ten LOLE standard appropriate and adequate?

11 A. Yes.

12 Q. Are there any alternatives where possibly more
13 appropriate planning standards that should be utilized?

14 A. That's a really interesting question, and the
15 reason I mention that is the world that we are exiting
16 right now, which tends to be carbon heavy with
17 synchronous machines, there's synchronous hydro
18 machines, there's nuclear machines which are
19 synchronous, but a large amount of synchronous machines
20 that exist right now are natural gas or coal. And those
21 units are going away. And so the world that we're
22 exiting is comfortable in terms of the auctions, in
23 terms of the operation, all of the aspects.

24 The world that we're moving into is based on
25 interruptible and nonpersistent. And so in terms of how

1 we might view loss of load expectation, it would take
2 into account the natural vagarities of an interruptible
3 environment, but to begin with you could mask or assume
4 going forward using storage devices, using a large
5 amount of diversity within the system that we could use
6 and continue to use a one in ten year LOLE.

7 Q. Okay. My last question is, you know, in this
8 auction process we have seen large swings within the
9 MISO auction process specifically, and particularly last
10 year from this year. Can you address how significant of
11 a benefit this would be for utility companies going
12 forward?

13 A. Yeah. I kind of outlined that in the report
14 where right now, for example, the lower cost auctions
15 within the south of MISO, zones 8 to 10, are decoupled
16 from the north zone. Projects such as this help to
17 alleviate those particular auction disparities by having
18 capacity available and leveling the field. I'm not
19 sure, did I get your --

20 Q. Would you agree that one of the principal
21 benefits of a multi-regional multi-RTO transmission line
22 would be to get a negative price point power to a place
23 that would better use it? Is that a simplified --

24 A. Yes.

25 Q. -- easy way of saying this is one of the major

1 value of this project?

2 A. Absolutely, yes.

3 COMMISSIONER HOLSMAN: Thank you, Judge.

4 JUDGE DIPPELL: Are there any other
5 Commissioner questions? We have Commissioner Kolkmeier
6 online. So I'll just assume that he'll jump in if he
7 has questions.

8 QUESTIONS

9 BY JUDGE DIPPELL:

10 Q. I just had one further follow up and that is
11 so the testimony discusses the reliability and
12 resilience benefits of the Project and especially with
13 regard to extreme weather events. Are there any fees
14 that Missouri customers directly or indirectly through
15 the utilities and the RTOs would have to pay to receive
16 those benefits redirecting power?

17 A. Are you speaking, for example, by having Grain
18 Belt in service, would there be any additional sort of
19 user fees or that type of thing?

20 Q. Like the pancaking fees?

21 A. It's a possibility. But the overall benefits
22 of having, and we've heard benefits from a number of
23 different witnesses over the last two days, including
24 the reliability and resilient benefits, those benefits
25 dwarf potentially the pancaking fees. These would be

1 the types of things that would occur as a natural going
2 forward but they wouldn't be tied directly to, for
3 example, electricity prices except for, for example,
4 bringing in negative price point electricity at times to
5 relieve higher auction prices inside the zones that
6 we're looking at here.

7 JUDGE DIPPELL: Okay. Would there be any
8 cross-examination based on the bench questions from MEC?

9 MS. WHIPPLE: No, Your Honor. Thank you.

10 JUDGE DIPPELL: Sierra Club.

11 MS. RUBENSTEIN: No, thank you.

12 JUDGE DIPPELL: Renew Missouri.

13 MS. GREENWALD: No, thank you.

14 JUDGE DIPPELL: Clean Grid.

15 MR. BRADY: No cross.

16 JUDGE DIPPELL: Public Counsel.

17 MR. WILLIAMS: Thank you, no.

18 JUDGE DIPPELL: Staff.

19 MR. PRINGLE: No cross, Judge. Thank you.

20 JUDGE DIPPELL: MLA.

21 MR. AGATHEN: No, Your Honor.

22 JUDGE DIPPELL: Agriculture Associations.

23 MR. HADEN: No questions, Your Honor.

24 JUDGE DIPPELL: Mr. Hollander. Maybe he left.

25 Ms. Stemme.

1 MS. STEMME: No questions.

2 JUDGE DIPPELL: Associated Industries.

3 MR. ELLINGER: No questions, Judge.

4 JUDGE DIPPELL: Is there any redirect?

5 MR. SCHULTE: Yes, just briefly.

6 REDIRECT EXAMINATION

7 BY MR. SCHULTE:

8 Q. Mr. Baker, do you recall during the
9 cross-examination from MLA's counsel you were asked
10 whether MISO had evaluated any of the benefits discussed
11 in the Guidehouse report?

12 A. Yes.

13 Q. As Grain Belt Express is a merchant Project
14 which was planned outside of the MISO transmission
15 planning process, would you expect MISO to serve any
16 role in evaluating those benefits in the manner that you
17 have?

18 A. Not necessarily. But there would definitely
19 be interest to find out how new projects might,
20 especially novel projects FERC 1000 adhered to projects
21 would be accepted in the system, how they might operate,
22 how they might have to find coherent operating
23 procedures, for example.

24 Q. Okay. And additionally you had started to
25 discuss how future reliability benefits are analyzed by

1 reviewing past reliability incidents such as the winter
2 storms that we've been discussing?

3 A. Uh-huh.

4 Q. Could you just complete that explanation,
5 please?

6 A. Sure thing. Maybe just take one step back
7 from that particular narrative. As we are entering kind
8 of a new world, the operation of the power system will
9 change I would say incrementally but at times it may
10 change somewhat dramatically. Our historical planning
11 practices of which I'm familiar with over the past
12 number of decades speaks to an ability to see sort of a
13 system that's unfolding in a way that is pedestrian.
14 It's not super fast but it is something that requires
15 care and attention. And some of the planning techniques
16 that I'm familiar with is the ability to stand, for
17 example, in this point in history and look back ten
18 years. And during that lookback you might say okay, so
19 we've experienced let's say storms, or perhaps we've
20 experienced a technological change which is demonstrable
21 and has affected the system. COVID has occurred, a bit
22 of an outlier and we've taken it into account, but how
23 would we digest that particular event in the future.
24 And by looking at our historical approaches to planning
25 and operating the system, we've been very successful in

1 looking forward and figuring out how to wire in
2 generators, how to wire in big transmission lines
3 because they're very expensive, they take a long time to
4 put into place. As has been discussed here, a case of
5 what does disaster recovery look like. All of these
6 things are part of an ongoing synchronized approach to
7 the system.

8 With the changes that are occurring now,
9 they're relatively slow and it gives us a chance to
10 pause in terms of the amount of wind and solar coming
11 in, for example, and the amount of carbon heavy
12 generation being released from the system as we move
13 forward. And the positioning of these items on the
14 system is also very important because we've got carbon
15 heavy coal plants leaving at a spot which potentially
16 strands facilities on the system and the ability to find
17 something to replace those particular items while still
18 maintaining value and the operational advantages that we
19 have in the system, the wiring, we don't want to give up
20 transmission paths, they're very, very difficult to
21 back. These types of planning techniques have served
22 the industry well. And the modification of these
23 techniques going forward is going to be advantageous to
24 lines like Grain Belt because FERC has been looking and
25 asking for these type of interregional projects going

1 forward and this is an example of how we might do it.

2 It will be a little messy at times, but it's going to be
3 a good example of how we're going to potentially move
4 forward.

5 MR. SCHULTE: Thank you. I don't have any
6 further questions.

7 JUDGE DIPPELL: Thank you. Thank you,
8 Mr. Baker. Your testimony is finished and you may step
9 down. Appreciate you stepping in.

10 THE WITNESS: Happy to do so.

11 (Witness excused.)

12 JUDGE DIPPELL: I think this is a good place
13 to take another break. I don't plan to go late this
14 evening. We've made up a little bit of time, not as
15 much as we need to, but I think we'll be okay. If we
16 need to stay late tomorrow or Thursday to get some
17 things finished up, we might try that. So for now let's
18 take a break and come back at 3:55. We'll go off the
19 record.

20 (A recess was taken.)

21 JUDGE DIPPELL: Brian, you can go ahead. We
22 can go ahead and go back on the record. All right. We
23 are ready for Grain Belt's next witness.

24 MR. SCHULTE: Thank you. Before we call the
25 next witness, could we get confirmation that witnesses

1 Shashank Sane and Rolanda Shine -- well, I guess I might
2 as well ask if all of the witnesses who have testified
3 on behalf of Grain Belt thus far can be excused --

4 JUDGE DIPPELL: They may.

5 MR. SCHULTE: -- so that they can catch
6 flights. Thank you.

7 JUDGE DIPPELL: Yes. Including Staff's
8 witness who I told earlier was excused. Yes, they may
9 be excused.

10 MR. SCHULTE: I appreciate that. Okay. With
11 that, Grain Belt Express calls Jonathan Monken.

12 JUDGE DIPPELL: Sorry. We have a little
13 maintenance work going on back here. Would you please
14 raise your right hand. Do you solemnly swear or affirm
15 that the testimony you're about to give at this hearing
16 will be the truth?

17 THE WITNESS: I do.

18 JUDGE DIPPELL: Thank you. If you could spell
19 your name for the court reporter, please.

20 THE WITNESS: Sure. It's Jonathan Monken,
21 J-o-n-a-t-h-a-n M-o-n-k-e-n.

22 JUDGE DIPPELL: You can go ahead.

23 MR. SCHULTE: Good afternoon, Mr. Monken.

24 JONATHAN MONKEN,
25 having been first duly sworn, was examined and testified

1 as follows:

2 DIRECT EXAMINATION

3 BY MR. SCHULTE:

4 Q. Mr. Monken, could you please provide your
5 address for the record, business address?

6 A. Yes. 1301 K Street, NW, Washington, D.C.
7 20005.

8 Q. And by whom are you employed and what is your
9 title?

10 A. I'm a principal at Converge Strategies, LLC.

11 Q. And are you the same Jonathan Monken who filed
12 or caused to be filed direct testimony and accompanying
13 Schedules JM-1 and JM-2?

14 A. I am.

15 Q. Are you also the same Jonathan Monken who
16 filed or caused to be filed surrebuttal testimony?

17 A. Yes.

18 Q. And for the record the direct testimony has
19 been marked as Exhibit 13 along with the schedules and
20 the surrebuttal testimony has been marked as Exhibit 14.
21 If I were to ask you the same questions that appear in
22 those sets of testimony today, would your answers be
23 substantially the same?

24 A. They would.

25 Q. Do you have any corrections to make?

1 A. I do not.

2 MR. SCHULTE: With that, I would move for the
3 admission of Exhibits 13 and 14 into the record and all
4 of that is public.

5 JUDGE DIPPELL: Would there be any objection
6 to Exhibit 13 or 14? Seeing and hearing none, I will
7 admit those into the record.

8 MR. SCHULTE: Thank you.

9 (COMPANY EXHIBITS 13 AND 14 WERE RECEIVED INTO
10 EVIDENCE AND MADE A PART OF THIS RECORD.)

11 MR. SCHULTE: The witness is available for
12 cross.

13 JUDGE DIPPELL: And I'll just throw it out
14 there generally again. Is there going to be
15 cross-examination for this witness? All right. Okay.
16 I'll just go down the line again. Anything from MEC?

17 MS. WHIPPLE: No, Your Honor. Thank you.

18 JUDGE DIPPELL: Sierra Club.

19 MS. RUBENSTEIN: No, thank you.

20 JUDGE DIPPELL: Renew.

21 MS. GREENWALD: Yes, just quickly. Good
22 afternoon, Mr. Monken.

23 THE WITNESS: Good afternoon.

24 CROSS-EXAMINATION

25 BY MS. GREENWALD:

1 Q. In your direct and surrebuttal testimony you
2 mention that there are more than a hundred military
3 installations across the 23 states connected by Grain
4 Belt Express; is that right?

5 A. It is.

6 Q. Who is in charge of procuring energy and
7 interfacing with local utilities on these installations?

8 A. Installations within the Department of Defense
9 have a unique contracting authority that doesn't exist
10 with any other federal agency. So the individual
11 installations each have a designated installation energy
12 manager who has contracting authority to negotiate rates
13 and programs directly with utilities.

14 Q. And are the installation energy managers
15 responsible for implementing the DOD energy policies on
16 the installations?

17 A. They are, in coordination with the
18 installation commander who is their direct line of
19 authority.

20 Q. And in your current consulting role, do you
21 provide guidance on the implementation of these
22 policies?

23 A. We do.

24 Q. Do you believe that the Commission's approval
25 of the Amended CCN would create more certainty around

1 the Project?

2 A. I do, yes.

3 Q. And with more certainty around the Project, do
4 you believe that there would be more vocal support from
5 these installation energy managers?

6 A. Yes, I do.

7 MS. GREENWALD: I have nothing further. Thank
8 you.

9 THE WITNESS: Thank you.

10 JUDGE DIPPELL: Is there anything from Clean
11 Grid Alliance?

12 MR. BRADY: No cross.

13 JUDGE DIPPELL: Public Counsel.

14 MR. WILLIAMS: Thank you, no.

15 JUDGE DIPPELL: Staff.

16 MR. PRINGLE: No questions, Judge. Thank you.

17 JUDGE DIPPELL: MLA.

18 MR. AGATHEN: Thank you, Your Honor. Good
19 afternoon, sir.

20 THE WITNESS: Good afternoon.

21 CROSS-EXAMINATION

22 BY MR. AGATHEN:

23 Q. Will you turn to page 4 of your direct
24 testimony, please?

25 A. Yes.

1 Q. At line 1 you were asked what the purpose is
2 of your testimony; is that correct?

3 A. Yes, that's correct.

4 Q. And you essentially respond that your purpose
5 is to provide an assessment of the national security
6 value of the Grain Belt Project; is that essentially
7 correct?

8 A. Yes, it is.

9 Q. Could you please describe in general terms the
10 multi-value transmission projects which were included in
11 MISO's recent MTEP 22 analysis, MTEP being M-T-E-P?

12 A. No, I cannot.

13 Q. Do you know what the amount of the investment
14 in those projects is?

15 A. No, sir, I do not.

16 Q. You didn't examine the specific impact on
17 national security of any of the potential MISO projects,
18 did you?

19 A. That is correct.

20 Q. Did you examine the specific impact on
21 national security of any Project being considered for
22 approval by SPP or PJM?

23 A. I did not.

24 Q. And in the sense that you used the term any
25 additional transmission line which adds to system

1 reliability will also promote national security, will it
2 not?

3 A. Yes, it will.

4 Q. Did you make any attempt to quantify the
5 dollar amount of the national security value of the
6 Grain Belt Project?

7 A. National security value does not have a dollar
8 amount value. So it's essentially driven based on the
9 ability of the Department of Defense to execute national
10 defense missions.

11 Q. And that's unquantifiable?

12 A. In the mind of the Department of Defense, it's
13 an all or nothing proposition. They can either execute
14 those national defense missions or they cannot.

15 Q. To your knowledge, has the Department of
16 Defense ever seen the need to intervene or participate
17 in a state regulatory proceeding to support the
18 construction of a specific transmission or generation
19 facility?

20 A. Yes, yes, they have.

21 Q. They have not done so here, right?

22 A. That's correct.

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

24 JUDGE DIPPELL: Thank you. Anything from the
25 Ag Associations.

1 MR. HADEN: No questions, Your Honor.

2 JUDGE DIPPELL: Is Mr. Hollander in the room?
3 Ms. Stemme.

4 MS. STEMME: No questions.

5 JUDGE DIPPELL: Associated Industries.

6 MR. ELLINGER: Very briefly. Good afternoon,
7 Mr. Monken.

8 THE WITNESS: Good afternoon.

9 CROSS-EXAMINATION

10 BY MR. ELLINGER:

11 Q. I just want to actually follow up on a couple
12 questions that were just asked a minute ago speaking of
13 the number of bases. There are a number of military
14 bases located in the state of Missouri, at least two
15 major ones, correct?

16 A. Yes. They're actually five Department of
17 Defense installations, and that does not include the
18 significant number of National Guard Armories that are
19 within the state.

20 Q. Would your prior testimony talking about the
21 installation energy manager would apply to those
22 installations also?

23 A. Yes, that's correct.

24 Q. And they could perceive real value in
25 strengthening the infrastructure, energy infrastructure

1 in Missouri?

2 A. Absolutely, yes.

3 MR. ELLINGER: No further questions. Thank
4 you.

5 JUDGE DIPPELL: Thank you. Are there
6 questions from the Commission? Chairman.

7 CHAIRMAN RUPP: Were all the questions you
8 were asked easier than what you anticipated being asked?

9 THE WITNESS: Yes, Mr. Chairman.

10 COMMISSIONER KOLKMEYER: Commissioner
11 Kolkmeier here with no questions.

12 JUDGE DIPPELL: Okay. Commissioner, thank
13 you. Commissioner Holsman.

14 COMMISSIONER HOLSMAN: Thank you.

15 QUESTIONS

16 BY COMMISSIONER HOLSMAN:

17 Q. I apologize if any of this is duplicative. I
18 walked in just a little bit late on Renew Missouri's
19 questioning. We've established that we have a number of
20 facilities here, including Fort Leonard Wood, Whiteman
21 Air Force Base, and I know that each of them has been
22 working to diversify and decarbonize their energy
23 portfolios, as well as address their power reliability
24 and resiliency. Looking at the Project more
25 holistically, are both Phase I and Phase II necessary to

1 achieve the DOD and national security benefits you
2 identified in your testimony?

3 A. Yes, they are.

4 Q. Do all of those benefits remain if only Phase
5 I is completed?

6 A. No, they do not.

7 Q. Can you say whether you have been involved in
8 creating or reviewing the IEP plan for the installations
9 in Missouri?

10 A. Not in the state of Missouri. The closest one
11 is Scott Air Force Base, which is just across the river
12 in Illinois.

13 Q. Can you identify some common vulnerabilities
14 that could be addressed by a Project like this?

15 A. Yes. So in particular the installation energy
16 plans are targeted at looking at vulnerabilities or
17 potential disruptions to either capacity availability,
18 so just having enough energy available to meet the
19 fundamental critical loads that are identified by those
20 mission critical facilities, or access to
21 infrastructure. So in the form of redundancy or
22 hardening of those assets. So Grain Belt Express has
23 the ability to address both of those challenges adding
24 additional transmission infrastructure redundancy to
25 support those installations and adding interregional

1 transfer capacity that would help meet those critical
2 loads to support national defense missions.

3 Q. We talked a little bit in earlier testimony
4 about black start capabilities and from that not only
5 natural disasters but from a defense standpoint we do
6 have intelligence that our adversaries are in possession
7 of hypersonic weapons that could deliver EMP, nuclear
8 devices at an atmospheric level that would potentially
9 cause great harm to our energy infrastructure. Are you
10 aware of primarily this Project having any
11 prioritization or significance in terms of addressing
12 threats that we could potentially face that would be
13 like an EMP?

14 A. Yes, absolutely. So in terms of the potential
15 technical capabilities of an interregional HVDC line,
16 the enhanced controllability, frequency stability and
17 bidirectional capability are each in direct support of
18 being able to mitigate against all sorts of natural and
19 manmade hazards. So the targeted attacks on physical
20 infrastructure that we've seen certainly in an
21 international scale and the Russia-Ukrainian War and then
22 certainly all of the intelligence that indicates a
23 desire on the part of nation state adversaries to
24 deliberately target grid infrastructure as a means of
25 degrading mission capability of United States forces

1 that are based in the continental United States,
2 essentially adding these technical capabilities to each
3 of the three regions that we're discussing right now
4 being SPP, MISO and PJM have the ability to provide
5 significant mitigation of those potential risks.

6 Q. Are you aware of any communications from DOD
7 directly to the RTOs or the general operators to prepare
8 or to consider these nation state risks?

9 A. So during my time as a senior director of
10 system resilience at PJM Interconnection, I actually
11 spearheaded a program called Path Finder which is
12 designed specifically to integrate the efforts of
13 privately-owned utilities and the Department of Defense
14 to try and address what critical loads exist within the
15 operating territories of the ISOs and RTOs across the
16 nine reliability coordinators of North America with the
17 specific intent of trying to identify how they can
18 ensure both capacity availability and infrastructure
19 performance to support Department of Defense critical
20 loads. So there are efforts underway to address this
21 directly. Also within the DOE Office of Cyber Security,
22 Energy Security and Energy Resilience, which is CSESER,
23 they have a program called DCEI, or Defense Critical
24 Electric Infrastructure, that is specifically designed
25 to identify both generation capacity and physical

1 transmission and distribution assets that are in direct
2 support of defense installations and to prioritize them
3 for both investment and improvement to try and mitigate
4 the potential risks for targeted attacks on
5 infrastructure.

6 Q. Where did you say you're based out of? Where
7 are you officed out of?

8 A. Washington, D.C.

9 Q. Washington, D.C. Have you communicated at all
10 on this subject matter with NARUC?

11 A. Yes. So we are currently supporting NARUC in
12 a contractual arrangement to facilitate their work on
13 the DCEI program specifically. So this year we'll be
14 running a pilot program that's designed with a
15 particular intent of how to translate DCEI
16 infrastructure investments into ways that make it easier
17 for state commissions to assess the just and reasonable
18 cost of investment in that infrastructure, specifically
19 to support those installations and the defense
20 communities that surround them.

21 Q. We heard a little bit about the impact that it
22 would have on bases. Has anybody talked about BRAC with
23 you yet?

24 A. Yes, we've spoken about BRAC. So certainly it
25 has significant ramifications just in terms of long-term

1 infrastructure planning and having the relative
2 certainty as to where those defense installations will
3 be and then what missions will be executed from them.
4 So the Department of Defense has the ability, of course,
5 to establish either redundant functionality of defense
6 missions at other installations or move primary mission
7 sets from one installation to another based on those
8 decisions.

9 Q. My last question is, in your expert opinion,
10 do you think a Project like this improves the national
11 security of the United States and the citizens of
12 Missouri?

13 A. I do.

14 COMMISSIONER HOLSMAN: Thank you.

15 JUDGE DIPPELL: All right. Looks like that is
16 the last of the bench questions. Is there any further
17 cross-examination based on the bench questions from MEC?

18 MS. WHIPPLE: No, Your Honor. Thank you.

19 JUDGE DIPPELL: Sierra Club.

20 MS. RUBENSTEIN: No, thank you, Your Honor.

21 JUDGE DIPPELL: Renew Missouri.

22 MS. GREENWALD: No, thank you.

23 JUDGE DIPPELL: Clean Grid Alliance.

24 MR. BRADY: No cross.

25 JUDGE DIPPELL: Public Counsel.

1 MR. WILLIAMS: Thank you, no.

2 JUDGE DIPPELL: Staff.

3 MR. PRINGLE: No cross. Thank you.

4 JUDGE DIPPELL: MLA.

5 Mr. AGATHEN: No, Your Honor. Thank you.

6 JUDGE DIPPELL: Ag Associations.

7 MR. HADEN: None, Your Honor.

8 JUDGE DIPPELL: Ms. Stemme.

9 MS. STEMME: No questions.

10 JUDGE DIPPELL: Associated Industries.

11 MR. ELLINGER: No questions, Judge.

12 JUDGE DIPPELL: Thank you. Is there any
13 redirect?

14 MR. SCHULTE: Very briefly.

15 REDIRECT EXAMINATION

16 BY MR. SCHULTE:

17 Q. Counsel for MLA asked you whether you had
18 studied the national security benefits of MISO planned
19 projects or SPP planned projects. Do you recall that
20 question?

21 A. I do recall.

22 Q. Do any of the currently planned projects in
23 MISO or SPP involve multi-regional HVDC components?

24 A. They do not. In that way, Grain Belt Express
25 is a unique project.

1 MR. SCHULTE: Okay. Thank you. No further
2 questions.

3 JUDGE DIPPELL: All right. Thank you,
4 Mr. Monken. That completes your testimony and you may
5 be excused.

6 THE WITNESS: Thanks, Your Honor.

7 (Witness excused.)

8 JUDGE DIPPELL: I think we should go ahead
9 then and keep going with Grain Belt's next witness. Do
10 you solemnly swear or affirm that the testimony you're
11 about to give at this hearing will be the truth?

12 THE WITNESS: I do.

13 JUDGE DIPPELL: Thank you. If you could state
14 and spell your name, please.

15 THE WITNESS: Yes. My name is Jennifer
16 Stelzleni, J-e-n-n-i-f-e-r S-t-e-l-z-l-e-n-i.

17 JUDGE DIPPELL: Go ahead, Counsel, when you're
18 ready.

19 MR. PLUTA: Sure. As a preliminary matter,
20 Grain Belt Express has agreed to make an adjustment in a
21 condition that is brought up in Ms. Stelzleni's
22 testimony. We've conferred with Staff, and I think
23 they're okay with our proposed revision. But we'd like
24 to read it into the record and then get other parties'
25 consent on the proposed amendment.

1 So reading it into the record, the condition
2 would state, Grain Belt Express shall not install
3 transmission facilities associated with Phase I of
4 easement property in Missouri until it has submitted
5 documentation to Commission Staff regarding compliance
6 with all applicable federal and Missouri environmental
7 permits and approvals associated with Phase I, including
8 Missouri specific environmental studies.

9 Further, Grain Belt Express shall not install
10 transmission facilities associated with Phase II on
11 easement property in Missouri until it has submitted
12 documentation to Commission Staff regarding compliance
13 with all applicable federal and Missouri environmental
14 permits and approvals associated with Phase II,
15 including Missouri specific environmental studies.

16 JUDGE DIPPELL: That was basically the change
17 that Staff's witness made in his testimony earlier; is
18 that correct?

19 MR. PRINGLE: Yes, Judge. We specifically
20 added the Missouri specific environmental studies after
21 consulting with Grain Belt's consulting with their
22 witness to add a few other language to make sure we're
23 getting all those permits, but apparently some permits
24 are called approvals. So we're just making sure we're
25 covering all our bases.

1 JUDGE DIPPELL: So that is a change then also
2 to this witness's testimony?

3 MR. PLUTA: Correct.

4 JUDGE DIPPELL: I was going to say explain to
5 me again how that fits into this part of the -- and what
6 it is that you're wanting from counsel to acknowledge.

7 MR. PLUTA: Sure. So in Ms. Stelzleni's
8 surrebuttal testimony she stated that she would
9 acquiesce with Mr. Cunigan's condition, proposed
10 condition. Since then, Mr. Cunigan said what he said
11 during his cross testimony, and to clarify the record
12 and simplify what Grain Belt's proposed condition is
13 we're submitting this as our amended one. Ms. Stelzleni
14 can answer any questions the Commission has about that
15 proposed revision.

16 The other reason why we're bringing it up now
17 is that we haven't had a full opportunity to discuss
18 this change with all the intervenors to see if it's
19 something that they would agree to support.

20 JUDGE DIPPELL: Okay. So we can -- I will let
21 the intervenors question the witness then about that
22 change as we go.

23 MR. PLUTA: Sounds good. Thank you, Judge
24 Dippell.

25 JENNIFER STELZLENI,

1 having been first duly sworn, testified as follows:

2 DIRECT EXAMINATION

3 BY MR. PLUTA:

4 Q. Ms. Stelzleni, please state your name and
5 business address.

6 A. Yes. My name is Jennifer Stelzleni. My
7 business address is 1 South Wacker Drive, Suite 1800,
8 Chicago, Illinois 60606.

9 Q. And by whom are you employed and what is your
10 title?

11 A. I'm employed by Invenergy LLC, and I am a
12 Senior Manager of the Environmental Compliance and
13 Strategy Team.

14 Q. Are you the same Jennifer Stelzleni who filed
15 direct and surrebuttal testimony and accompanying
16 Schedule JS-1 on January 18, 2023 and May 15, 2023, and
17 marked as Exhibits 15 and 16 respectively?

18 A. I am.

19 Q. Do you have any additions or corrections to
20 make in your testimony at this time?

21 A. I do not.

22 Q. If I asked you the same questions again today,
23 would your answers remain the same?

24 A. They would.

25 MR. PLUTA: Thank you. I move the Commission

1 to enter Exhibits 15 and 16 into the record.

2 JUDGE DIPPELL: Would there be any objection
3 to Exhibits 15 and 16? Seeing none, then I will admit
4 those exhibits.

5 (COMPANY EXHIBITS 15 AND 16 WERE RECEIVED INTO
6 EVIDENCE AND MADE A PART OF THIS RECORD.)

7 MR. PLUTA: Thank you, Ms. Stelzleni. I have
8 no further questions. Your Honor, I tender the witness
9 for cross-examination.

10 JUDGE DIPPELL: All right. Is there any
11 cross-examination from MEC?

12 MS. WHIPPLE: No, Your Honor. Thank you.

13 JUDGE DIPPELL: From Sierra Club.

14 MS. RUBENSTEIN: No, thank you, Your Honor.

15 JUDGE DIPPELL: Renew Missouri.

16 MS. GREENWALD: No, thank you.

17 JUDGE DIPPELL: Clean Grid Alliance.

18 MR. BRADY: No cross.

19 JUDGE DIPPELL: Public Counsel.

20 MR. WILLIAMS: Thank you, no.

21 JUDGE DIPPELL: Staff.

22 MR. PRINGLE: No cross. Thank you, Judge.

23 JUDGE DIPPELL: MLA.

24 MR. AGATHEN: No cross. Thank you, Your
25 Honor.

1 JUDGE DIPPELL: Agriculture Associations.

2 MR. HADEN: No questions, Your Honor.

3 JUDGE DIPPELL: Mr. Hollander. Ms. Stemme.

4 MS. STEMME: No questions.

5 JUDGE DIPPELL: Associated Industries.

6 MR. ELLINGER: No questions. Thank you,
7 Judge.

8 JUDGE DIPPELL: All right. Are there any
9 Commission questions?

10 CHAIRMAN RUPP: I'm thinking. No, thank you.

11 JUDGE DIPPELL: Commissioner Holsman.

12 COMMISSIONER HOLSMAN: Thank you.

13 QUESTIONS

14 BY COMMISSIONER HOLSMAN:

15 Q. Thank you for joining us today. In reviewing
16 the exhibit containing the comments received from the
17 community meetings I noticed a number of landowners
18 mention concerns about the potential route crossing
19 streams or waterways. Based on your environmental and
20 permitting background, I was hoping that you could
21 answer the following two questions concerning this.

22 What considerations were applied and what
23 specific changes were made in response to those concerns
24 and how were responses and/or any changes communicated
25 with those landowners who expressed the concern and more

1 generally to the community?

2 A. Okay. I think to answer your first question
3 about what changes were applied, so myself on the
4 environmental team worked with our routing team and
5 others to examine the comments received and all
6 constraints and opportunities associated with routing
7 the line to make any necessary adjustments to avoid and
8 minimize and mitigate the impacts to the environmental
9 resources.

10 Q. Let's start with there were changes and there
11 were adjustments done after the community feedback?

12 A. I can't say for sure what changes were
13 incorporated, but I know that we had a post public
14 meeting conference, the team did, and we examined the
15 comments received and how we could look to avoid and
16 minimize resources.

17 Q. What about the second part?

18 A. Could you restate your second question.

19 Q. How were the responses or any changes
20 communicated with those landowners who expressed the
21 concerns more generally to the public?

22 A. I do not have the answer to that question. I
23 think I would want to defer that to Mr. Kevin Chandler.
24 Okay. There were also a number of concerns expressed by
25 landowners with regard to structures on their impacted

1 property which were described as historic or significant
2 value legacy to the family. Can you address what
3 criteria was applied to address those concerns and what,
4 if any, changes were made in response to the specific
5 concerns expressed by the impacted landowners?

6 A. That would have also been an item that we
7 would have examined in our post public meeting
8 conference. I think I would need to defer the specifics
9 of that to Andrew on our routing team.

10 Q. So to summarize your response, you've examined
11 it, you're aware of the comments, you've evaluated the
12 comments, but you made no changes or suggestions on what
13 to do about the concerns?

14 A. I wouldn't say we made no changes to evaluate
15 the concerns. I just cannot remember precisely what
16 edits may have been made to the line in response to
17 those public comments.

18 Q. And the second part of my question has to deal
19 with some farms are deemed organic or they have specific
20 designation for how their crops are grown. Is that
21 something that you have taken into consideration in
22 terms of how these lines will impact those designations?

23 A. So that is a bit out of my purview on the
24 environmental team. That's more an issue that our
25 development team examines. I do know that organic farms

1 are something that the team has examined to understand
2 if and where they occur. But I think Kevin Chandler
3 would probably be the better person to answer that.

4 Q. So Kevin Chandler will potentially have the
5 answer to the changes other than the valuation of the
6 concerns?

7 A. Can you restate that question.

8 Q. So Kevin Chandler will have the evidence that
9 the Company has addressed these concerns other than
10 evaluating them?

11 A. I think, yes, he should be able to speak to
12 how the concerns were evaluated and addressed.

13 Q. And addressed?

14 A. Yes, I think if they are present.

15 COMMISSIONER HOLSMAN: All right. Thank you.
16 Thank you, Judge.

17 JUDGE DIPPELL: Are there any other Commission
18 questions? Okay. I have a few here.

19 QUESTIONS

20 BY JUDGE DIPPELL:

21 Q. Bear with me. I hope these weren't already
22 asked. In your direct testimony on page 8 you reference
23 the current certificated Grain Belt transmission line
24 route saying additional targeted environmental field
25 studies are to be performed in 2022, 2023 and 2024. Can

1 you explain what those field studies are and why they
2 will continue through 2024?

3 A. Yes. So we have been undertaking a series of
4 studies for the Project to include examination of
5 protected species, wetlands and water bodies and
6 cultural resources and also visual, potential visual
7 impacts from the Project. So those studies have
8 continued over multiple years for various reasons, some
9 because some of the studies are seasonally restricted.
10 So we have to carefully time them.

11 In the case of the cultural resources studies,
12 those I think are particularly the ones that could go
13 into 2024. And the scope of those studies is large.
14 It's expansive because we are examining the entire
15 portion of the Phase I Project and so it takes a lot of
16 time to advance those studies.

17 Q. And you also say that surveys will be used to
18 further refine and reduce overall environmental impacts.
19 Can you explain what you mean by refine? How would
20 those be refined?

21 A. I'm sorry, Judge, I want to see exactly -- oh,
22 I see where you are.

23 Q. Also on page 8 somewhere.

24 A. Refine and reduce. Yeah, that might not have
25 been the best choice of words. What we always try and

1 do is avoid first impacts. And if we can't avoid, then
2 we minimize. And if we can't -- also if we can't
3 completely avoid, oftentimes we need to mitigate for
4 those impacts as well. So we are continuously -- As we
5 collect additional information on environmental
6 resources, we are continuously communicating that to the
7 other teams at Invenergy, our engineering, our
8 development team, and we are examining ways that we
9 could refine the Project so that we could meet that
10 avoidance and minimization.

11 Q. Okay. On page 4 of your surrebuttal you
12 state, at lines 9 to 10 you state Grain Belt Express has
13 issued a response to the Staff DR 50.1 and will
14 supplement its response when necessary as required under
15 the discovery rules in this proceeding. Do you recall
16 what DR 50.1 asks?

17 A. I think I have it here.

18 Q. Your counsel has it, if you don't. The
19 Commission isn't privileged to have those DRs in front
20 of them.

21 A. Understood. Okay. So DR 50.1 was a request
22 to provide copies of the completed reports that were
23 listed in Data Request 50 and the request to update the
24 response as the new reports are completed.

25 Q. What were the reports in Data Request 50?

1 A. So that included an assessment of whooping
2 crane habitat, an assessment of lesser prairie chicken
3 and greater prairie chicken leks, so leks are their
4 grounds where they mate, eastern spotted skunk habitat,
5 Indiana bat misnetting and telemetry, as well as a bat
6 species habitat assessment, a lesser prairie chicken
7 habitat assessment, wetland and water body delineation
8 and cultural resources surveys.

9 Q. And just for the court reporter benefit, that
10 was lek, l-e-k, correct?

11 A. Yes.

12 Q. So were those studies -- Have those studies
13 been updated or those surveys?

14 A. Some have. Not all are complete. So we are
15 still underway with several of them.

16 Q. And have any of them been completed since you
17 filed your surrebuttal? I mean, have you given any more
18 updates to Staff since your surrebuttal was filed?

19 A. I want to make sure I'm getting the dates
20 correct. So I think my surrebuttal was filed at the
21 beginning of May. No, that was answer to the data
22 request. One moment. Okay. Surrebuttal testimony in
23 May. I think it was at that time that we did provide a
24 copy of the bat misnetting report but since that time
25 we've not provided any additional information.

1 Q. And do you know which of the other studies are
2 still to be completed?

3 A. Yes. I'm going to reference this so I don't
4 miss any. So we are still working on the bat species
5 habitat assessment, the lesser prairie chicken habitat
6 assessment, the wetland and water body delineation and
7 the cultural resources surveys.

8 Q. And if you can say without it being
9 confidential, did the results of any of those studies
10 that aren't complete or in progress even, did that cause
11 any issues with the proposed route of the Tiger
12 Connector part of the Project?

13 A. We are still underway with assessing resources
14 for the Tiger Connector portion of the Project. I
15 think, you know, we carefully routed and sited initially
16 so that we could minimize the resources as we knew them
17 on the desktop. One of our next steps will be to do
18 field assessment for some of those resources and at that
19 time then we'll examine if there are further edits that
20 should be made to the design again to avoid and minimize
21 impacts to resources.

22 JUDGE DIPPELL: Thank you. Any further
23 questions from the Commission? Seeing nothing. Is
24 there any further cross-examination based on questions
25 from the bench? From MEC.

1 MS. WHIPPLE: No, Your Honor, thank you.

2 JUDGE DIPPELL: Sierra Club.

3 MS. RUBENSTEIN: No, thank you.

4 JUDGE DIPPELL: Renew.

5 MS. GREENWALD: No, thank you.

6 JUDGE DIPPELL: Clean Grid Alliance.

7 MR. BRADY: No, thank you.

8 JUDGE DIPPELL: Public Counsel.

9 MR. WILLIAMS: Thank you, no.

10 JUDGE DIPPELL: Staff.

11 MR. PRINGLE: No further questions, Judge.

12 Thank you.

13 JUDGE DIPPELL: MLA.

14 MR. AGATHEN: No, Your Honor.

15 JUDGE DIPPELL: Ag Associations.

16 MR. HADEN: No, Your Honor.

17 JUDGE DIPPELL: Mr. Hollander is out. Ms.

18 Stemme.

19 MS. STEMME: No questions.

20 JUDGE DIPPELL: Associated Industries.

21 MR. ELLINGER: No questions, Judge. Thank

22 you.

23 JUDGE DIPPELL: Is there any redirect?

24 MR. PLUTA: No, Your Honor.

25 JUDGE DIPPELL: All right. I believe that

1 completes your testimony and you may be excused.

2 THE WITNESS: Thank you, Your Honor.

3 (Witness excused.)

4 JUDGE DIPPELL: Okay. Is there any reason we
5 can't keep going with Mr. Burke? Seeing none, we'll
6 just continue on. Does counsel need a minute?

7 MS. CALLENBACH: Yes, Judge. Thank you. I
8 think are we talking about the environmental stipulation
9 briefly?

10 Judge, Grain Belt calls Andrew Burke, please.

11 JUDGE DIPPELL: Okay. Mr. Burke, could you
12 raise your right hand. Do you solemnly swear or affirm
13 that the testimony you're about to give at this hearing
14 will be the truth?

15 THE WITNESS: I do.

16 JUDGE DIPPELL: Thank you. If you could
17 please spell your name.

18 THE WITNESS: It's Andrew, A-n-d-r-e-w, Burke,
19 B-u-r-k-e.

20 JUDGE DIPPELL: You can go ahead, Counsel.

21 MS. CALLENBACH: Thank you. Mr. Burke, good
22 afternoon.

23 THE WITNESS: Good afternoon.

24 ANDREW BURKE,

25 having been first duly sworn, was examined and testified

1 as follows:

2 DIRECT EXAMINATION

3 BY MS. CALLENBACH:

4 Q. Would you please state your business address
5 for the record?

6 A. It is 10 Al Paul Lane, Suite 103, Merrimack,
7 New Hampshire 03054.

8 Q. And by whom are you employed and what is your
9 title?

10 A. I'm employed by WSP USA, and my title is
11 Senior Planner/GIS Specialist.

12 Q. Thank you. Are you the same Andrew Burke who
13 filed direct testimony which has been marked as Exhibit
14 17, surrebuttal testimony which has been marked as
15 Exhibit 18 and Schedules AB-1 through AB-2? And those
16 are both public, Judge.

17 A. Yes.

18 Q. Do you have any corrections to your testimony
19 at this time?

20 A. I do not.

21 Q. If I were to ask you the same questions again
22 today, would your answers remain the same?

23 A. Yes.

24 MS. CALLENBACH: Judge, at this time I'd move
25 for the admission of Exhibit 17 and 18 and Schedules

1 AB-1 and AB-2.

2 JUDGE DIPPELL: Would there be any objection
3 to Exhibits 17 and 18? Seeing no objections, I admit
4 those into the record.

5 (COMPANY EXHIBITS 17 AND 18 WERE RECEIVED INTO
6 EVIDENCE AND MADE A PART OF THIS RECORD.)

7 MS. CALLENBACH: Thank you. And the witness
8 is available for cross.

9 JUDGE DIPPELL: Is there any cross-examination
10 from MEC?

11 MS. WHIPPLE: Thank you, Your Honor, no.

12 JUDGE DIPPELL: Sierra Club.

13 MS. RUBENSTEIN: No cross from Sierra Club.
14 Thank you.

15 JUDGE DIPPELL: Renew.

16 MS. GREENWALD: No, thank you.

17 JUDGE DIPPELL: Clean Grid Alliance.

18 MR. BRADY: No cross, thank you.

19 JUDGE DIPPELL: Staff.

20 MR. PRINGLE: No cross, Judge. Thank you.

21 JUDGE DIPPELL: MLA.

22 MR. AGATHEN: No, Your Honor.

23 JUDGE DIPPELL: Ag Associations.

24 MR. HADEN: No questions, Your Honor.

25 JUDGE DIPPELL: Ms. Stemme.

1 MS. STEMME: No questions.

2 JUDGE DIPPELL: Associated Industries.

3 MR. ELLINGER: No questions, Judge.

4 JUDGE DIPPELL: All right. Are there any
5 questions for Mr. Burke from the Commissioners?

6 CHAIRMAN RUPP: None from me. Thank you.

7 JUDGE DIPPELL: I'm not seeing any. Well, I
8 have questions, I think. Let me make sure they haven't
9 been taken care of.

10 QUESTIONS

11 BY JUDGE DIPPELL:

12 Q. Are you familiar with Mr. Chandler's
13 testimony?

14 A. Not particularly, no.

15 Q. Okay. He discusses micrositing. Are you
16 familiar with micrositing?

17 A. Yes.

18 Q. Can you explain what that is?

19 A. It would be generally looking at structure
20 placement within a property and adjustments to the line
21 for a project, whereas I focus more on the overall
22 siting of the project, trying to get from point A to
23 point B, selecting a preferred route. Micrositing I
24 would consider as making those small adjustments based
25 on landowner negotiations and detailed surveys that are

1 not available at the time that my siting work is done.

2 Q. Okay. And so will Grain Belt use micrositing
3 techniques with the Tiger Connector portion of the
4 Project?

5 A. That is my understanding they will, yes.

6 JUDGE DIPPELL: Okay. That's the only
7 question I had. Were there any follow-up questions
8 based on my questions? I'll just throw it out there.

9 MR. WILLIAMS: Judge, for the record Public
10 Counsel has no cross either of in response to your
11 question nor otherwise.

12 JUDGE DIPPELL: Okay. Thank you,
13 Mr. Williams. All right. I hear nothing. Is there any
14 redirect based on my questions?

15 MS. CALLENBACH: No, Judge. No redirect.
16 Thank you.

17 JUDGE DIPPELL: Well, that was pretty
18 painless, Mr. Burke, I hope.

19 THE WITNESS: Thank you.

20 JUDGE DIPPELL: You may be excused.

21 (Witness excused.)

22 JUDGE DIPPELL: Is Mr. Chandler ready? We can
23 at least get his exhibits entered and get some
24 preliminaries done. I do think the bench may have some
25 questions for Mr. Chandler. Would you please raise your

1 right hand. Do you solemnly swear or affirm that the
2 testimony you're about to give at this hearing will be
3 the truth?

4 THE WITNESS: I do.

5 JUDGE DIPPELL: Thank you. Can you state your
6 name and spell it, please?

7 THE WITNESS: Kevin Chandler, K-e-v-i-n
8 C-h-a-n-d-l-e-r.

9 JUDGE DIPPELL: Counsel, you may go ahead.

10 KEVIN CHANDLER,
11 having been first duly sworn, was examined and testified
12 as follows:

13 DIRECT EXAMINATION

14 BY MR. SCHULTE:

15 Q. Could you please provide your business address
16 for the record?

17 A. It's 1 South Wacker Drive, Suite 1800,
18 Chicago, Illinois 60606.

19 Q. And by whom are you employed and what is your
20 title?

21 A. I'm employed by Invenergy LLC. My title is
22 Director of Transmission Business Development.

23 Q. Are you the same Kevin Chandler who filed or
24 caused to be filed direct testimony on August 24, 2022,
25 including Schedules KC-1 through KC-5?

1 A. I am.

2 Q. And just for the record I'll note that
3 Schedule KC-2 was filed in five parts on EFIS due to the
4 size of the files. So just want to note that for the
5 record and for the compilation of the official exhibits.
6 Are you also the same Kevin Chandler who filed or caused
7 to be filed surrebuttal testimony on May 15, 2023,
8 including Schedules KC-6 and KC-7?

9 A. I am.

10 Q. And do you have any corrections to those
11 testimonies or schedules?

12 A. I do not.

13 Q. And I will note that the direct testimony,
14 including Schedules KC-1 through KC-5 is marked as
15 Exhibit 19 and the surrebuttal testimony of Kevin
16 Chandler, including Schedules KC-6 and KC-7, is marked
17 as Exhibit 20, and I would move for those to be entered
18 into -- well, actually let me ask one more question. If
19 I were to ask you the same questions as appearing in
20 your direct and surrebuttal testimonies today, would
21 your answers be substantially the same?

22 A. They would.

23 MR. SCHULTE: With that, I would move to enter
24 Exhibits 19 and 20 into the record.

25 JUDGE DIPPELL: And I understand there is some

1 confidential information in Exhibit 19; is that correct?

2 MR. SCHULTE: Yes. The confidential
3 information is contained to Schedule KC-2.

4 JUDGE DIPPELL: Thank you. Is there any
5 objection to Exhibits 19, including 19-C, and 20?
6 Seeing none, those are admitted.

7 (COMPANY EXHIBITS 19, 19-C AND 20 WERE
8 RECEIVED INTO EVIDENCE AND MADE A PART OF THIS RECORD.)

9 MR. SCHULTE: The witness is available for
10 cross.

11 JUDGE DIPPELL: Is there going to be
12 cross-examination for Mr. Chandler? Yes, I'm seeing
13 heads nod. MEC.

14 MS. WHIPPLE: No, Your Honor. Thank you.

15 JUDGE DIPPELL: Sierra Club.

16 MS. RUBENSTEIN: No, thank you.

17 JUDGE DIPPELL: Renew Missouri.

18 MS. GREENWALD: No, thank you.

19 JUDGE DIPPELL: Clean Grid Alliance.

20 MR. BRADY: No, thank you.

21 JUDGE DIPPELL: Staff.

22 MR. PRINGLE: Yes, Judge. Thank you. Good
23 afternoon, Mr. Chandler.

24 THE WITNESS: Good afternoon. How are you?

25 MR. PRINGLE: Pretty good, sir, pretty good.

1 Thank you for asking.

2 CROSS-EXAMINATION

3 BY MR. PRINGLE:

4 Q. Do you have a copy of KC-5 with you?

5 A. I believe so. Yes, I do have a copy of KC-5.

6 Q. Could you turn to what at the bottom is
7 numbered page 4 of it? It has your red lines regarding
8 payments, easement payment and agricultural impact
9 payment?

10 A. Yes. Let me pull out the red-line version.
11 Got it.

12 Q. And if the Project -- if the phasing of the
13 Project were to be approved by the Commission, would the
14 Company have any objection to including language in
15 these red lines regarding what payments would go to
16 which phase?

17 A. I'm not sure I understand the question.

18 Q. Just to -- From which to clarify for
19 landowners if phasing is approved, would the Company
20 amend these red lines to specifically say like which
21 payment belongs to Phase I, which payment belongs to
22 Phase II?

23 A. So I believe what we proposed here is
24 essentially breaking out payment structure for both the
25 HVDC portion of the Project, as well as the AC portion

1 which is the Tiger Connector, and I think it's our
2 understanding that the HVDC payment structure would
3 remain the same whether Phase I or Phase II.

4 Q. Yes. Just to clarify for landowners, make
5 sure there is no confusion if phasing is approved, would
6 the Company specify Phase II only be receiving -- Phase
7 II would only receive the 110 percent and the structure
8 payments, correct, there would be no 150 under Phase II,
9 correct?

10 A. That is correct, yes.

11 Q. All right. And so pretty much if phasing is
12 approved, would the Company be fine with making sure
13 that is clear in the landowner protocols?

14 A. That landowners along the Phase II route would
15 receive the standard HVDC payment?

16 Q. Correct, yes.

17 A. Yes, I think we're comfortable with making
18 that suggestion.

19 MR. PRINGLE: All right. Thank you,
20 Mr. Chandler. I have no further questions.

21 JUDGE DIPPELL: MLA. Let me see. Do you have
22 substantial questioning, Mr. Agathen? We're like ten
23 until 5:00.

24 MR. AGATHEN: I would go past 5:00 I'm quite
25 sure.

1 MR. WILLIAMS: Judge, if I might go on the
2 record. OPC does not have any questions of this witness
3 at this time.

4 JUDGE DIPPELL: Thank you, Mr. Williams. I
5 didn't think I skipped you but maybe I did. I think
6 we'll just go ahead maybe and break here for the day and
7 then start with your questions in the morning.

8 MR. AGATHEN: Thank you, Judge.

9 JUDGE DIPPELL: That's an opportunity for you
10 to shorten your questions, not an opportunity for you to
11 lengthen your questions.

12 MR. AGATHEN: I kind of understood that.

13 JUDGE DIPPELL: Okay. Is there anything else
14 that we need to discuss before going off the record?

15 MR. BRADY: Yes, Sean Brady with Clean Grid
16 Alliance. Mr. Goggin might be up for tomorrow based on
17 the schedule. How do you want -- When do you want to
18 talk about a time so I can make sure he's available? I
19 can tell you right now, I checked with him, and the only
20 time he's not available is going to be after 4:00 p.m.
21 Eastern time. So I mean, if we break at noon tomorrow,
22 that gives him some time. How do you want to coordinate
23 that?

24 JUDGE DIPPELL: I'd say that he should just
25 give us the times he's not available and if he's okay

1 with being on standby, then if we get to him we'll call
2 him then. If for some reason he comes up when he's not
3 available, then we'll rearrange so that he can appear on
4 Thursday.

5 MR. BRADY: Okay. All right.

6 JUDGE DIPPELL: I do believe we have one
7 witness that's only available tomorrow, Dr. Loomis; is
8 that correct?

9 MR. SCHULTE: Yes. That should fall in line
10 with the existing schedule. He could go right after
11 Mr. Chandler.

12 MR. AGATHEN: Who was that?

13 MS. CALLENBACH: David Loomis.

14 JUDGE DIPPELL: Okay. And I would like to
15 start again at 8:30 in the morning. We'll also be
16 breaking for the Commission's regular agenda meeting at
17 10:15. So at ten o'clock we'll probably break.

18 MR. SCHULTE: Just to confirm, I think I asked
19 for witnesses who had testified prior to Mr. Monken to
20 be excused. Just to confirm, may Jonathan Monken, Jen
21 Stelzleni and Andrew Burke also be excused?

22 JUDGE DIPPELL: They may. They are excused.

23 MR. SCHULTE: Thank you.

24 JUDGE DIPPELL: And I guess that is
25 everything.

1 MR. PRINGLE: One thing, we could maybe wait
2 until tomorrow, Judge, just we'll be swapping Michael
3 Stahlman and Claire Eubanks in the order of Staff
4 witnesses.

5 JUDGE DIPPELL: Okay. Have you already
6 discussed that with counsel?

7 MR. PRINGLE: Toss it around now.

8 JUDGE DIPPELL: Okay. I will let everyone
9 know that. Anything else before we go off the record?
10 Okay. Thank you. We can go off the record.

11 (Thereupon, the proceedings concluded for the
12 day at 4:51 p.m. And will begin again tomorrow at 8:30
13 a.m.)

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Staff's Exhibit:

101 Rebuttal Testimony of Cedric E.
Cunigan, PE and attached schedules 461

MLA's Exhibit:

302 G39 and Response 475

(All exhibits retained by the Public Service
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CERTIFICATE OF REPORTER

STATE OF MISSOURI)

COUNTY OF COLE)

I, Beverly Jean Bentch, RPR, CCR No. 640, do hereby certify that I was authorized to and did stenographically report the foregoing Public Service Commission evidentiary hearing; and that the transcript, pages 330 through 585, is a true record of my stenographic notes.

I FURTHER CERTIFY that I am not a relative, employee, attorney, or counsel of any of the parties, nor am I a relative or counsel connected with the action, nor am I financially interested in the action.

Dated this 22nd day of June, 2023.

Beverly Jean Bentch

Beverly Jean Bentch, RPR, CCR No. 640

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