

BEFORE THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

TRANSCRIPT OF PROCEEDINGS
Evidentiary Hearing
December 5, 2018
Jefferson City, Missouri
Volume 4

In The Matter Of The)
Application Of Union Electric)
Company d/b/a Ameren Missouri)
For Approval Of Efficient)
Electrification Program)

File No. ET-2018-0132

NANCY DIPPELL, Presiding
SENIOR REGULATORY LAW JUDGE

RYAN A. SILVEY, Chairman,
WILLIAM P. KENNEY,
SCOTT T. RUPP,
MAIDA J. COLEMAN,
COMMISSIONERS

REPORTED BY:
Tracy Taylor, CCR No. 939
TIGER COURT REPORTING, LLC

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A P P E A R A N C E S

JAMES B. LOWERY
Smith Lewis, LLP
111 South 9th Street
Columbia, Missouri 65201
573.443.3141
FOR: Ameren Missouri

WENDY TATRO
1901 Chouteau Avenue
St. Louis, Missouri 63101
FOR: Ameren Missouri

MARK W. COMLEY
601 Monroe Street, Suite 301
Jefferson City, Missouri 65102
573.634.2266
FOR: ChargePoint, Inc.

DIANA CARTER
Brydon, Swearingen & England, PC
PO Box 456
Jefferson City, Missouri 65102-0456
573.635.7166
FOR: The Empire District Electric Company

MICHAEL B. LANAHAN
Department of Economic Development
301 West High Street
Jefferson City, Missouri 65102
573.522.3304
FOR: Missouri Division of Energy

HENRY B. ROBERSTON
Great River Environmental Law Center
319 N. 4th Street, Suite 800
St. Louis, Missouri 63102
314.231.4181
FOR: Natural Resources Defense Council, Sierra Club

TIMOTHY OPITZ
Renew Missouri
409 Vandiver Drive, Building 5, Suite 25
Columbia, Missouri 65202
573.825.1796
FOR: Renew Missouri Advocates

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JOHN CLIZER
PO Box 2230
Jefferson City, Missouri 65102
573.751.3524

FOR: Office of the Public Counsel

NICOLE MERS
200 Madison Street, Suite 800
PO Box 360
Jefferson City, Missouri 65102-0360
573.751.4140

FOR: Staff of the Missouri Public Service Commission

1 JUDGE DIPPELL: Let's go ahead and go on
2 the record. Morning. This is Wednesday morning,
3 December 5th. I'm Nancy Dippell, Regulatory Law
4 Judge, and we are back in session in File Number
5 ET-20180-0132.

6 Preliminary matters this morning, we were
7 going to take Mr. Ellis out of order and over the
8 phone as our first witness and then we will resume. I
9 understand there's no cross-examination from the
10 parties for Mr. Owen, so I will check with the
11 Commissioners to see if there were any Commission
12 questions for him and then we'll resume the order of
13 witnesses. So I will --

14 MR. COMLEY: Your Honor, before we call
15 Mr. Ellis, I may need some guidance on procedure. The
16 parties have generously waived cross-examination for
17 Mr. Ellis and I -- I -- I'm thinking that because of
18 that, I was -- I would prefer to go ahead and have his
19 testimony offered under the cover and strength of his
20 affidavit and have that finished and then get him on
21 the telephone, swear him in so -- I understand the
22 Chairman has questions for him at that point.

23 JUDGE DIPPELL: That sounds reasonable.
24 So Mr. Ellis's testimony has been offered and that has
25 been previously marked.

1 MR. COMLEY: Exhibit 650 and 651, Judge.

2 JUDGE DIPPELL: Yes. Exhibit 650 and
3 651. Would there be any objection to Mr. Ellis's
4 testimony?

5 Seeing none then, we will admit Exhibit
6 650, which is the Rebuttal Testimony of James Ellis,
7 and 651, which is the Surrebuttal Testimony of James
8 Ellis.

9 (Exhibits 650 and 651 were received into
10 evidence.)

11 MR. COMLEY: Thank you. He is expecting
12 your phone call.

13 JUDGE DIPPELL: All right. If you'll
14 bear with me, I'll get him on the phone. We can go
15 off the record just briefly while I do that.

16 (Off the record.)

17 JUDGE DIPPELL: So I have dialed,
18 Mr. James Ellis is on the phone. Okay. And hold on
19 just one moment because I put him in Commissioner
20 Rupp's spot. I'll let him share my microphone.

21 Mr. Ellis, if you have difficulty hearing
22 questions, let me know. Okay?

23 THE WITNESS: Will do. Thank you.

24 JUDGE DIPPELL: Okay. So I'm going to
25 begin by swearing you in. Would you please raise your

1 right hand with me?

2 (Witness sworn.)

3 JUDGE DIPPELL: Thank you. We've
4 previously entered your testimony into the record and
5 counsel has waived cross-examination so we just have
6 some Commissioner questions for you. So I'm going to
7 begin with the Chairman. Chairman Silvey?

8 CHAIRMAN SILVEY: Thank you.

9 QUESTIONS BY CHAIRMAN SILVEY:

10 Q. Good morning. Thank you for joining us
11 by phone this morning.

12 A. Good morning.

13 Q. First, I know that -- that ChargePoint is
14 also over in Kansas City and that we have some Tesla
15 chargers on some of the corridors as well. Are you
16 aware of any other networks operating in Missouri
17 besides you and Tesla?

18 A. I am not directly aware of that. There
19 may be equipment out there or being planned to be
20 deployed, but I don't have direct information about
21 any of that.

22 Q. Okay. If this incentive program that
23 Ameren is proposing is not approved, do you anticipate
24 that -- that ChargePoint will still expand in
25 Missouri, and specifically in Ameren's territory?

1 A. ChargePoint will continue to make our
2 products and services available in Missouri with or
3 without this program. However, the program has the
4 potential to help accelerate electricity used as a
5 fuel to provide broad benefits to Missouri and the --
6 and utilities and ratepayers.

7 **Q. Okay. And how many markets do you**
8 **operate in around the country?**

9 A. So we operate in every state. We have
10 equipment and services in every state in the US.

11 **Q. Okay. Roughly how many cities do you --**
12 **or markets? Obviously some states would have -- we**
13 **would -- this would be what I would consider to be a**
14 **second market in Missouri since you're in Kansas City,**
15 **now you would be in St. Louis. So do you have a ball**
16 **park on that?**

17 A. So we would be -- so we're the leading
18 provider of these types of products and services in
19 the US. In the top 50 markets, we have strong
20 presence in each of those.

21 **Q. Okay. I think one of the contentions**
22 **that we've heard to this point is that it will**
23 **necessarily lead to an increase or it's expected to**
24 **lead to an increase in the overall number of EVs on**
25 **the road. Can you provide any information from your**

1 **experience in other markets on what kind of an impact**
2 **it's had on total EV adoption in those markets?**

3 A. So EV adoption and electric vehicle
4 infrastructure are correlated, but they're not the
5 only -- infrastructure is not the only barrier to
6 adoption or lack of infrastructure is not the only
7 barrier to adoption.

8 So in looking at the adoption, many
9 factors go into that, including vehicle availability,
10 the cost of the vehicle, general awareness of electric
11 transportation, electric vehicles, the infrastructure,
12 you know, general awareness of the whole market
13 dynamics.

14 The infrastructure itself and the
15 availability of infrastructure, if it's not available,
16 then studies have shown that EV adoption is not going
17 to be as broad as it would be with the infrastructure
18 in place. But those other factors also have, you
19 know, played a role in the overall adoption. It's not
20 one component alone.

21 **Q. Do you believe it to be the primary**
22 **component?**

23 A. I believe it to be one of three. Cost of
24 vehicle and availability is one, infrastructure
25 availability is one, and general awareness of

1 electricity as a fuel and the benefits of driving
2 electric is the third.

3 **Q. Okay. What is the time frame in a**
4 **process like this, for example, when a -- for like**
5 **when a workplace charging unit would be approved for**
6 **an incentive under this program, what would be the lag**
7 **between the time that that incentive is approved and**
8 **when people could actually start charging? How long**
9 **does it take to deploy these?**

10 A. So the process of construction is usually
11 the leading indicator of that. And it can range from
12 a few weeks to a month or more, but rather quickly,
13 particularly with a rebate type of incentive. That
14 would be the approval. Not requiring oversight from a
15 say utility that would have oversight or actually have
16 to schedule construction to go and do construction.

17 So, you know, could be as -- a couple
18 weeks. It moves fairly quickly. Now, in the middle
19 of winter it may take longer than when more weather --
20 better weather is available in the spring and
21 summertime to install the infrastructure.

22 **Q. Is it more involved for a long distance**
23 **like corridor-type charger than it is for say an L2 or**
24 **an L3, or are they the same?**

25 A. Several questions in there. So level 2

1 and level -- and DC charging let's just say -- level 3
2 actually starts at 90 kW and above. But typical fast
3 charging, which would be around 50 kW, they're
4 different. Right? So the capacity may be different,
5 the site may be different.

6 Available capacity for level 2
7 potentially could be quicker, but really it's site
8 specific. So each site would need to be assessed and
9 then determine what requirements are needed to install
10 the infrastructure and interconnect it, electrify it
11 and then make it operational. So it really just
12 depends on the site characteristics.

13 **Q. Okay. From a -- from a -- I guess this**
14 **is probably more of a technology standpoint then.**
15 **Looking at how this proposed incentive is structured,**
16 **there's specifically L2, there's L3 and then on the**
17 **long distance corridor, it doesn't designate. So is**
18 **that a completely different level of charger on what**
19 **would be a long distance corridor charger or would --**
20 **how would -- how does that work?**

21 A. So the -- sorry.

22 **Q. I'm sorry. How does that work?**

23 A. Right. So DC fast charging is different
24 from level 2 charging. DC is direct current that goes
25 into the vehicle that charges at a higher rate. L2,

1 level 2, is AC power that goes into the vehicle at a
2 lower power, approximately 7 kW depending on the car
3 for level 2 and could be up to 50 kW or so for the
4 long distance corridor.

5 So those charging sites are going to be
6 different. You may have a bank of level 2 chargers at
7 a workplace or a multi-unit dwelling. Multiple, you
8 know, up to ten, say. And a corridor may have one or
9 two. And that would be the faster charging, more
10 analogous to a filling station model, if you will,
11 where you pull in, you get a fast charge and then you
12 drive on.

13 The level 2 is more applicable for
14 vehicles that come in, park for several hours and then
15 maybe go onto a different location or perhaps move
16 their vehicle during lunch in a workplace.

17 **Q. Okay. So that kind of touches on another**
18 **question I have about the corridor charging then. Who**
19 **would you expect to apply for installation of corridor**
20 **charging? Is this restaurants or hotels or what do**
21 **you see around the country when we talk about**
22 **locations of corridor chargers?**

23 A. So corridors, you want to have the
24 charging in a close proximity to the corridor itself.
25 It wouldn't be something that would be five, ten miles

1 away that someone would have to, you know, venture off
2 their path of where they're going. So convenience is
3 an important consideration in deploying that
4 infrastructure.

5 Now, again, each site is different, each
6 corridor is different. A landowner, a property owner,
7 you know, a restaurant with amenities is an ideal
8 location. A grocery store actually that's close to a
9 corridor could be a good location that we've seen
10 because it has existing electrical capacity and
11 wouldn't require additional costs associated with
12 adding that capacity. It just improves the existing
13 load factor of that. So different sites are, you
14 know, putting charging infrastructure in and it really
15 just depends on what's there.

16 In the EV project, we saw Cracker Barrel,
17 which is a restaurant on the side of the interstates,
18 install fast charging. They also installed a level 2
19 charging along with the fast charger. And that
20 provided patrons of that business ample time to go in
21 and eat and use the facilities or whatever they needed
22 to do while their vehicle was charging and then they
23 went on about their business.

24 So we've seen different types of models
25 with the site hosts owning the infrastructure and

1 providing that service to drivers.

2 **Q. So do they actually own the**
3 **infrastructure or are they buying a service from you?**
4 **Like who physically owns the equipment?**

5 A. So the ChargePoint business model is to
6 sell the equipment and services to site hosts. We
7 have teams of folks that can help the site host plan
8 and install the equipment. We provide the network
9 services for them to operate the equipment, to set
10 pricing and access controls. So we provide all of
11 that and we can provide that in turnkey.

12 The site host would have a permit pulled.
13 They would own the asset, they would hold title to
14 that asset. They would pull permits and affix that
15 asset to their real property that they own and -- and
16 manage it that way. That's our business model.

17 **Q. And then they decide individually as to**
18 **how the consumer experiences -- as far as whether they**
19 **are charged or whether they pay for the charging?**

20 A. That's correct. They would be in full
21 charge of access controls. They may not want their
22 property visited in the middle of the night, say. So
23 they may turn the stations off at night or not provide
24 access control during certain hours. During business
25 hours, they may provide full access. It may be for

1 free. There may be a nominal charge for those
2 services that are bundled associated with that EV
3 charging.

4 **Q. And then insofar as they charge the user,**
5 **you provide the application for that?**

6 A. ChargePoint provides drivers with a
7 mobile application. They can determine where charging
8 stations are located. They can review and view if
9 there is a fee associated with that charging station
10 or any services associated with that location and be
11 directed to those locations.

12 For the site host, we provide a network
13 and it provides data analytics, it provides for
14 monetization of the charging services. So they can
15 set a price, if they want to, by time, by service and
16 in some instances by energy.

17 **Q. Okay. And then finally, my final**
18 **prepared question is what is the life cycle of these**
19 **various chargers, the physical equipment?**

20 A. So I think the life cycle is really
21 dependent upon how it's used and how it's maintained.
22 So we have a preventative maintenance program that we
23 provide to our customers that buy the equipment. We
24 upgrade software ongoing at no additional fees
25 associated with that network so the software is not an

1 issue. Hardware will wear out eventually. We don't
2 have a specific time frame that I can give you as far
3 as the equipment itself.

4 **Q. Do you have a ball park? I mean are we**
5 **talking five years, seven years, ten years, longer?**

6 A. So in other jurisdictions we've seen ten
7 years be what's used in the financial analysis as far
8 as life of the equipment.

9 **Q. Okay. Thank you for your testimony.**
10 **That concludes my questions.**

11 JUDGE DIPPELL: Thank you.

12 THE WITNESS: Thank you.

13 JUDGE DIPPELL: Are there other
14 Commission questions? Commissioner Kenney?

15 COMMISSIONER KENNEY: I have no questions
16 of Mr. Ellis.

17 JUDGE DIPPELL: Commissioner Rupp? Is
18 there --

19 CHAIRMAN SILVEY: I have one follow-up.

20 JUDGE DIPPELL: Mr. Chairman.

21 CHAIRMAN SILVEY: I'm sorry. I forgot
22 one.

23 BY CHAIRMAN SILVEY:

24 **Q. Who gets access to the information of who**
25 **is charging and when?**

1 A. So the site host typically has full
2 access to anyone that's using their services and --
3 their charging station and their services. We can
4 make available to utilities, depending on the program
5 design, the data itself.

6 So typically in utility-incentivized
7 programs, part of the utility terms and conditions
8 with their participants, with their customer
9 agreement, requires the participants provide that
10 access to that data. That's something that we do
11 encourage and that we enable through our smart
12 network.

13 **Q. Is that --**

14 A. So as long as that consent is given by
15 that participant, we provide that data -- full data to
16 the utility for the term of the program.

17 **Q. So that is specific to end-user data, not**
18 **generalized data?**

19 A. It could be, but again, would -- we would
20 need to have the direct consent if it's going to be
21 personalized data. Typically aggregated data is
22 provided unless there are specific agreements that
23 allow us or give us the consent to provide additional
24 information.

25 **Q. Okay. Thank you.**

1 JUDGE DIPPELL: Thank you. Would there
2 be any further cross-examination based on the
3 Commissioner's questions from Ameren?

4 MS. TATRO: No.

5 JUDGE DIPPELL: From Renew Missouri?

6 MR. OPITZ: No, thank you, Judge.

7 JUDGE DIPPELL: From the Division of
8 Energy? From Public Counsel?

9 MR. CLIZER: No, thank you, Judge.

10 JUDGE DIPPELL: From Staff?

11 MS. MERS: No, thank you.

12 JUDGE DIPPELL: All right. Is there any
13 redirect, Mr. Comley?

14 MR. COMLEY: I have none. Thank you.

15 JUDGE DIPPELL: All right. I believe
16 that concludes your testimony then, Mr. Ellis. Thank
17 you very much for participating this morning.

18 THE WITNESS: My pleasure. Thank you for
19 the flexibility.

20 JUDGE DIPPELL: All right. I'm going to
21 hang up.

22 MR. COMLEY: And I'd add my thanks too
23 for the Commission's consideration for this witness.

24 COMMISSIONER KENNEY: Judge, before we
25 continue, may I ask a question of counsel?

1 JUDGE DIPPELL: Yes.

2 COMMISSIONER KENNEY: Ameren's tariff
3 does not allow for sale for resale; is that correct?

4 MS. TATRO: No. I -- I believe in the ET
5 case from two years ago, there is a specific exception
6 for electric vehicle chargers that says that is not
7 considered sale for resale.

8 COMMISSIONER KENNEY: Did we change that
9 because --

10 MS. TATRO: You forced us to put it in
11 there.

12 COMMISSIONER KENNEY: Okay. I -- I
13 couldn't remember. I know we had the KCP&L and
14 then --

15 MS. TATRO: Right. Yes. Our --

16 COMMISSIONER KENNEY: -- they told us
17 they weren't going to go forward.

18 MS. TATRO: Right.

19 COMMISSIONER KENNEY: I don't think we
20 did anything with their tariff.

21 MS. TATRO: Yeah. I think as part of the
22 order in that case, you had us add that language to
23 our tariff. So it's there.

24 COMMISSIONER KENNEY: Okay. Thank you.

25 JUDGE DIPPELL: All right. And when we

1 started this morning, I forgot to mention that we do
2 have agenda at 11:00 today, so we'll be breaking a few
3 minutes before that if we're still going. So let's go
4 ahead then and begin with the next witness. I believe
5 we're up to then Renew Missouri.

6 MR. OPITZ: Judge, I believe we had
7 scheduled Mr. Owen for the afternoon today. And you
8 mentioned earlier you were going to inquire whether
9 there were any questions from the Bench.

10 JUDGE DIPPELL: Yes. Thank you very
11 much. And I'll just quickly ask right now if the
12 Commissioners know if they will have questions for
13 Mr. Owens later or Owen?

14 COMMISSIONER KENNEY: I have no questions
15 for Mr. Owen.

16 JUDGE DIPPELL: Okay. It looks like
17 there won't be any questions, so --

18 MR. OPITZ: If that's the case, Judge, at
19 this time I would ask to offer Exhibit Number 400, the
20 Surrebuttal Testimony of James Owen, into evidence.

21 JUDGE DIPPELL: Would there be any
22 objection to Exhibit 400?

23 Seeing none, then I will admit Exhibit
24 400.

25 (Exhibit 400 was received into evidence.)

1 MR. OPITZ: Thank you, Judge.

2 JUDGE DIPPELL: And with that, there was
3 a waiver of cross-examination, I'm assuming. I'm
4 seeing heads nod yes. All right then.

5 Then that will bring us to Office of
6 Public Counsel. And Dr. Marke has already made his
7 way up to the witness stand.

8 (Witness sworn.)

9 JUDGE DIPPELL: Thank you. All right
10 then. You may go ahead, Public Counsel.

11 MR. CLIZER: Thank you, Judge.

12 GEOFF MARKE, being first duly sworn, testified as
13 follows:

14 DIRECT EXAMINATION BY MR. CLIZER:

15 Q. Dr. Marke, can you please state and spell
16 your name for the record?

17 A. Geoff, G-e-o-f-f, Marke, M-a-r-k-e.

18 Q. And could you please tell us by whom
19 you're employed and in what capacity?

20 A. The Missouri Office of Public Counsel.
21 I'm the chief economist.

22 Q. And are you the same Geoff Marke who
23 prepared testimony Supplemental Tes-- sorry, Rebuttal
24 Testimony that has been premarked as OPC's Exhibit
25 200 --

1 A. Yes.

2 Q. -- in this case?

3 And did you not also prepare Supplemental
4 Testimony -- Supplemental Rebuttal Testimony which has
5 been premarked as OPC Exhibit 201?

6 A. Yes.

7 Q. Notwithstanding your Supplemental
8 Testimony, are there any changes or corrections you
9 would like to make to your Rebuttal Testimony?

10 A. I do have one change. It's on page 17 of
11 my Rebuttal Testimony. I believe it starts at line 3.
12 According to the response to OPC DR 2032, from 2010 to
13 2017, there were 905,455 conventional vehicles or
14 non-electric registered in the Kansas City Power &
15 Light, Kansas City, Kansas City -- KCPL Missouri and
16 KCPL GMO service territories. During that same time
17 span, only 2,789 EVs were registered in total, or --
18 and what I've got listed in my testimony in
19 parenthesis is 16.03 percent. The 16 should be
20 struck. It should be .03 percent.

21 Q. With those changes in mind, is your
22 testimony true and correct to the best of your belief
23 and knowledge?

24 A. Yes.

25 Q. And if I were to ask you the same

1 **questions today, would you give the same answers?**

2 A. I would.

3 **Q. And the same is true for your**
4 **Supplemental Rebuttal?**

5 A. Yes.

6 MR. CLIZER: In that case, I would offer
7 Exhibits 200 and 201, the Rebuttal Testimony and
8 Supplemental Rebuttal testimony of Dr. Marke.

9 JUDGE DIPPELL: Would there be any
10 objection to Exhibits 200 and 201?

11 MR. LOWERY: No objection.

12 JUDGE DIPPELL: Seeing none, then I will
13 admit those exhibits.

14 (Exhibits 200 and 201 were received into
15 evidence.)

16 MR. CLIZER: And I tender the witness for
17 cross-examination.

18 JUDGE DIPPELL: Is there any
19 cross-examination from Staff?

20 CROSS-EXAMINATION BY MS. MERS:

21 **Q. Good morning, Dr. Marke.**

22 A. Good morning.

23 **Q. If you turn to page 18 of your Rebuttal**
24 **Testimony, lines 10 through 11, you reference OPC**
25 **being largely risk adverse when it comes to**

1 **speculative value added services.**

2 **By speculative value added service, do**
3 **you mean services that are not necessary for safe and**
4 **adequate service?**

5 A. Yes.

6 **Q. OPC doesn't support the promotional**
7 **practice variance request in this case; is that**
8 **correct?**

9 A. That's correct.

10 **Q. Is that position consistent with OPC's**
11 **views regarding promotional practice waivers in MEEIA?**

12 A. Yes.

13 **Q. Is this proposal otherwise consistent**
14 **with MEEIA?**

15 A. There -- with the exception of the
16 promotional practice issues waiver --

17 **Q. Yes.**

18 A. -- is it consistent with MEEIA?

19 I think it runs counter to MEEIA. At
20 least the Business Charge Ahead program in -- insofar
21 as we have a load building program that is finding
22 revenues; whereas, MEEIA is a demand side reduction
23 program that is losing revenues. So lost revenues
24 versus found revenues, it's canceling each other out.

25 From a policy perspective, that seems to

1 be contradictory.

2 **Q. There's been some discussion and**
3 **testimony that's framing your proposal -- your risk**
4 **sharing proposal as radical as the utility may or may**
5 **not recover all of what they believe to be prudently**
6 **incurred costs. Are you aware of any similar risk**
7 **sharing proposals?**

8 A. I am. In fact, we've had several risk
9 sharing proposals actually approved by the Commission.
10 What comes to mind in -- Ameren programs at them --
11 both Community Solar Program, the Green Tariff
12 Program, Kansas City Power & Light Green Tariff
13 Program.

14 And I'm not sure I would characterize it
15 as a risk sharing mechanism. I would prefer the term
16 performance based metric. I think we're trying to
17 incentivize and trying to enable the utility to reach
18 the goals that they clearly feel that they can reach.

19 **Q. Would you agree that the alternative is**
20 **total cost recovery, but the cap-- captive customers**
21 **may or may not receive benefits from the expenditure?**

22 A. I think that has to be the concern for --
23 for a state agency that's charged with protecting the
24 public.

25 **Q. So your testimony discusses free**

1 **ridership quite a bit. Just to make sure we're on the**
2 **same page by what we mean by free ridership, can you**
3 **define what you mean by free ridership?**

4 A. An action taken that would otherwise be
5 taken without the rebate incentive. Our concern on
6 the free ridership is -- is primarily on the forklift,
7 the manufacturing element of this, the airport
8 electrification program.

9 Mr. Pickles spoke at length yesterday and
10 there's a -- an interesting diagram that's -- that was
11 posited before us as to how they came up with the free
12 ridership issue. But it's a nuanced issue, but a very
13 important one.

14 From -- from Public Counsel's
15 perspective, at a minimum, there's a principle agent
16 problem. Unlike MEEIA where we have a -- a
17 implementer that represents one consulting firm and we
18 have an EM&V contractor that represents a separate
19 firm to confirm that what the implementer did was
20 actually verified, in this case all three elements are
21 actually the exact same group; in this case, ICF.

22 ICF is charged with gathering the market
23 data. So on the front end, ICF would be charged with
24 implementing the program. And then ICF would be also
25 charged with determining whether or not ICF was

1 successful .

2 Now, Mr. Pickles, you know, seemed to
3 dismiss this out of hand by saying that the -- ICF is
4 a billion dollar company and it's publicly traded and
5 this is a drop in the bucket of -- of their revenues.
6 But I would argue that ICF is going to go ahead and
7 contract out four or five individuals that are
8 essentially going to live in the greater Ameren
9 Missouri service territory. They have -- those four
10 our five individuals have a financial incentive to
11 make sure that -- where reasonable minds may differ as
12 to whether the incentive induced that adoption or not.

13 So I find a lot of flaws with -- with
14 Mr. Pickles' characterization or estimates of free
15 ridership. Not least of which is the design of the
16 program itself, putting aside the MEEIA issues,
17 putting aside the promotional practice issues, which I
18 know Staff addressed at least at some length.

19 **Q. So that analysis that you're referring**
20 **to, I think it was marked as Exhibit 11, those program**
21 **provisions that Mr. Pickles walked through that --**
22 **regarding the inspections and what he considered other**
23 **free ridership mitigation safeguards, was that the**
24 **first time you had heard of any of those?**

25 A. It is.

1 **Q. And are those provisions in the tariff as**
2 **proposed?**

3 A. They're not.

4 **Q. And I take it you don't agree with his**
5 **explanation and resulting illustration?**

6 A. I don't. We -- we can look at that
7 illustration right there. You know, I would -- you
8 know, and I -- the court reporter and obviously
9 this -- this will be archived, but if you remember,
10 the initial impetus behind this was to draw a circle
11 and slice it in half right off of the bat and say half
12 of the market is electric, the other half is not.

13 If you just look at that right there, one
14 would get the impression that 75 percent potentially
15 is -- is available for induced adoption of EV charging
16 forklifts. So there are a number of issues.

17 I'm sorry. What was the question
18 initially again? Was beyond just -- just the
19 characterization of the diagram?

20 **Q. I -- I think that that's good. We can**
21 **move on.**

22 A. Okay.

23 **Q. Your testimony has been primarily focused**
24 **on free ridership as opposed to Business Solutions.**
25 **And I think Staff would -- would posit, and maybe it's**

1 **a disagreement, that there's some free ridership in**
2 **all of the programs. So have you reviewed any of**
3 **Ameren's responses to Staff data requests?**

4 A. I have.

5 MS. MERS: Okay. I'd like to mark an
6 exhibit. And may I approach?

7 JUDGE DIPPELL: Yes.

8 MS. MERS: And this is marked highly
9 confidential, but I think that if we speak about it in
10 gener-- general -- generalities -- I can't speak
11 today -- in general terms, we should be able to avoid
12 going in-camera.

13 JUDGE DIPPELL: So this will be marked as
14 204-C confidential.

15 MS. TATRO: Wouldn't it be a Staff
16 exhibit?

17 JUDGE DIPPELL: Oh, I'm sorry. I'm
18 sorry. I was lo-- still looking at testimony. Yes,
19 Staff's next exhibit is Exhibit 113. I apologize. So
20 it will be 113-confidential.

21 BY MS. MERS:

22 **Q. So if you could turn to page 3,**

23 A. I'm there.

24 **Q. There is a list of customers who have**
25 **asked about EV charging, as well as customers who have**

1 considered offering EV charging to employees, tenants
2 or visitors. The list doesn't indicate which
3 customers fall under what category. For the customers
4 that considered offering workplace, public or tenant
5 charging, would you agree that those customers are
6 free riders?

7 A. Can you -- can you repeat the question?

8 Q. So not the customers who had inquired
9 about incentives, but the customers who appear to be
10 considering offering EV charging without the knowledge
11 of the rebates or incentives. Would those, in your
12 mind, be free riders?

13 MR. LOWERY: I'm going to object to the
14 question. I think it mischaracterizes the DR answer
15 entirely. The DR answer specifically refers to the
16 fact that this list is about folks who did ask about
17 rebates and incentives. It doesn't indicate at all
18 that any of them were indicating that they would offer
19 EV charging without the rebates and incentives. So
20 she's mischaracterizing the question -- or the DR
21 response.

22 MS. MERS: I would -- if I may respond?

23 JUDGE DIPPELL: Go ahead.

24 MS. MERS: I would think due to the plain
25 reading of the DR, the fact that there's a distinction

1 between customers who asked about rebates or
2 incentives as well as the language existing in the DR
3 that says, As well as the customers that are
4 considering offering, that Ameren itself is drawing a
5 distinction between customers who inquired about
6 rebates or incentives or customers who did not.

7 Yeah, and the question also didn't ask
8 for customers who expressed interest in incentives.
9 The question reads, Have any non-residential customers
10 expressed interest in participating programs --
11 participating in programs such as these?

12 MR. LOWERY: I'm going to renew my
13 objection and also point out that if she really wanted
14 to know what the answer meant, she probably should
15 have asked Mr. Justis about it, but I -- it's
16 noteworthy that she didn't.

17 JUDGE DIPPELL: Okay. I'm going to allow
18 you to go ahead and ask your question.

19 BY MS. MERS:

20 **Q. Do you need me to repeat?**

21 A. No. I think -- I think I'm good. I
22 don't think I would characterize, as it is stated
23 here, that these would be free riders.

24 **Q. Okay. Turning to Business Solutions**
25 **again --**

1 MS. MERS: Oh, I'd like to go ahead and
2 enter this exhibit at this time.

3 JUDGE DIPPELL: Would there be any
4 objection to Exhibit 113-C, which is the Data Request
5 Number 15?

6 MR. LOWERY: No objection, Your Honor.

7 JUDGE DIPPELL: Seeing none, I will enter
8 that into the record.

9 (Exhibit 113-C was marked for
10 identification and received into evidence.)

11 BY MS. MERS:

12 Q. So Business Solutions allows customers to
13 apply for an incentive if they're expanding and adding
14 to an existing fleet. Correct?

15 A. Yes.

16 Q. And would you consider customers who
17 already own an electric forklift or belt loader and
18 expand to buy an additional electric forklift or belt
19 loaders to be free riders?

20 A. Potentially.

21 Q. Why?

22 A. I think what's lost in -- in the
23 testimony to date when we're talking about forklifts
24 is -- we look at it sort of as -- as a binary option;
25 it's electric or it's internal combustion. And the

1 reality of it is is that there are many components
2 that go into selecting the appropriate forklift.

3 Mr. Pickles and my testimony went ahead
4 and put forward data from the Industrial Trucking
5 Association. In general, forklifts -- the reason
6 somebody chooses a forklift is not just because
7 whether or not it's electric, which would fall under
8 classification of Class I or II and III electric
9 forklifts. And internal combustion forklifts might be
10 Class IV, Class V.

11 But it's dependent on the type of
12 warehouse that they're operating in. So obviously a
13 Class III forklift is very small, it's very narrow, it
14 needs to go ahead and -- and fit down hallways.
15 Class V might be -- if it's a diesel operating, it
16 could be much larger. So obviously it's going to be
17 handling outside.

18 The torque obviously on an electric
19 forklift is going to be pertinent. So if -- if you're
20 picking up weight that's extremely heavy and you're
21 doing it over time, that's going to put a lot of
22 pressure on that battery. Whereas, the diesel might
23 be a preferred option if that's outside. If it's
24 inside, it's propane. So it's going to mitigate a lot
25 of those emissions anyway.

1 What's -- what's lost in -- in
2 translation in a lot of this is that when we're
3 talking about electric forklifts, historically back
4 from '92 forward, we're talking about lead-acid
5 batteries. That's the predominant model that's on the
6 market right now. So the market is generally
7 saturated with electric forklifts. Moving forward,
8 we've got new battery options coming on; ion
9 batteries, fuel cells.

10 And my testimony goes into great
11 lengths -- I included a Navigant study in GM-2. If
12 you look at that on page 1, what you see is a trending
13 line and it's all of this new -- all of these new
14 forklifts coming online.

15 The opening sentence from this, A shift
16 away from forklifts powered by propane, diesel and
17 other fossil fuels in favor of electric models for
18 indoor applications started to occur in North America
19 during 2009. To date, traditional lead-acid batteries
20 have been the battery of choice of warehouse managers
21 for Class I, II and III forklifts.

22 This entire report basically says that
23 the market isn't -- not only is it already penetrated
24 and moved forward, but it's going to get more and more
25 advanced moving with -- just with the technology.

1 But there's more. Because when you're
2 looking at whether or not you're actually choosing to
3 go ahead and -- and select an electric forklift or --
4 or another type of forklift powered by another type of
5 fuel source, it's not again just whether or not I'm
6 owning that forklift. Am I renting that forklift? Am
7 I leasing that forklift? Am I buying that forklift
8 outright? Am I buying a used forklift? What's the
9 warranty behind it? All of these factors are factored
10 in, you know, to -- ultimately to that warehouse's
11 decision point.

12 So at the heart of it what we're talking
13 about here is a subsidy. That's what this is. And an
14 economist can disagree whether or not it's appropriate
15 for the government or regulated utilities to
16 incentivize new adoption for subsidies. We can agree
17 to disagree on that. But where economists do say a
18 subsidy is appropriate, it's at that initial stage,
19 that lift-off stage, that first 5, 10 percent.

20 We're at 56 percent in Missouri in 2016.
21 That's a saturated market. That's -- that's a
22 commanding presence. That's why OPC is not in favor
23 of the forklift program, but we are in favor of the EV
24 charging station with, albeit, exceptions, but that --
25 that's an important difference.

1 We don't want to just throw money at
2 something that's just going to naturally happen or
3 what we believe is naturally going to happen. And
4 that is ripe for free market -- free ridership.

5 **Q. Are you familiar with the Surrebuttal of**
6 **Ameren Witness David Pickles?**

7 A. I am.

8 **Q. Could you turn to page 13?**

9 A. I have got a lot of documents.
10 Unfortunately, I do not have the Ameren testimony in
11 front of me.

12 MR. CLIZER: Pickles Surrebuttal?

13 MS. MERS: Yes.

14 THE WITNESS: Page 14?

15 BY MS. MERS:

16 **Q. Thirteen, please.**

17 A. Thirteen. I'm there.

18 **Q. So Mr. Pickles lists unfamiliarity,**
19 **skepticism and fear, price considerations, including**
20 **Staff training, electrical infrastructure, wiring**
21 **upgrades, floor space for a battery room, ventilation,**
22 **lifting equipment for heavy batteries, and safety**
23 **equipment as barriers of adoption that Ameren -- the**
24 **Ameren Missouri incentive aims to overcome. Is that**
25 **an accurate sum-- summ-- summation?**

1 A. That is what he has listed, yes.

2 Q. Do you believe customers who are
3 expanding or adding to their fleet face those
4 barriers?

5 A. I mean, I -- I believe these are
6 throw-away lines. There's a lot of things that --
7 that somebody that's expanding or adding onto their
8 fleet have to take into consideration, so sure.

9 In terms of price, obviously that's going
10 to be factored into it. Whether it's -- again, does
11 it make more financial sense to buy something used, if
12 you lease it, if you buy it? Is it going to do the
13 job, at the end of the day? I might be able to get an
14 electric forklift, but it doesn't have the torque
15 power to lift the products that I'm doing or to adhere
16 to the sort of schedule that my workers are -- are --
17 are manufacturing. Then maybe I want to shift to
18 propane.

19 But again, I -- I point to the fact that
20 the market itself is just -- the technology is
21 advancing in such a manner where it's crowding out the
22 propane and diesel options.

23 You see that, you know, Mr. Pickles and I
24 both use the same data from the National Trucking
25 Association to draw conclusions. He went back in

1 Surrebuttal and said -- and looked at essentially a
2 PowerPoint slide that I've got a UR-- URL link in my
3 testimony to and said, Well, Dr. Marke's wrong. What
4 you need to do is look at two slides before that that
5 shows breakdown of the Class I and II forklifts versus
6 the Class IV and V forklifts.

7 I did that last night. I looked at the
8 Class I and II forklifts and I looked at the Class IV
9 and V forklifts. And what it has is a breakdown
10 between '94 and 2018. Year over year what you're
11 seeing is IV and V forklifts that are internal
12 combustion are remaining steady. Electric forklift
13 market share higher, higher and higher. That's the
14 progression that you're seeing. And moving forward
15 you have every reason to believe that's going to
16 continue.

17 And I can't stress this enough. In
18 Missouri, we're already ahead of the average -- the
19 national average. Again, it just doesn't make sense
20 to be throwing money at something that's going to
21 happen naturally.

22 **Q. And just from a practical perspective, if**
23 **you already have an electric forklift, you probably**
24 **already have the technology, room space, wiring**
25 **upgrades and those wouldn't be barriers you would**

1 **face. Would you agree to that?**

2 A. I would agree to that. And I would add
3 too -- and this has been put forward -- it was put
4 forward even in Ameren's opening -- the costs to
5 administer this program are very high; 40 percent,
6 50 percent.

7 If half of that is going right into ICF's
8 pocket, irregardless of any sort of performance
9 metrics that they have tied to their contract, I -- I
10 haven't seen programs designed that one lopsided that
11 we're essentially giving more money to the
12 implementers to go ahead and produce the program. So
13 again, I -- I feel like the program is flawed.

14 **Q. I think on page 25 of Mr. Pickles'**
15 **Surrebuttal, in response to your very point there, he**
16 **cites those same barriers that we just went through as**
17 **a justification for the level of program costs. Is**
18 **that like an accurate summation of probably lines 1**
19 **through 7?**

20 A. That's what Mr. Pickles says, yes.

21 **Q. Would you agree that the amount of time**
22 **and effort and, therefore, the appropriate amount of**
23 **program expense for customers who already own electric**
24 **equipment and, therefore, are familiar with it would**
25 **be lower?**

1 A. Let's just look at this reasonably here.
2 I mean, I think Mr. Pickles in his -- his initial
3 Direct Testimony has a schedule. I don't have it in
4 front of me. Essentially I want to say it's
5 approximately 600-plus forklifts that he's identified.
6 Looked at the entire Ameren Missouri service
7 territory, said there's about 650 forklifts, half of
8 which -- more than half of which are already electric.

9 So we can't -- we can't do those; they're
10 already electric. We want to go ahead and move those
11 other ones and then induce any future electric
12 forklifts.

13 That's not a lot. And he has a five-year
14 window to move those. Right? I mean this isn't
15 necessarily something that's going to happen tomorrow.
16 So -- so over a five-year period to -- to do what's a
17 pretty niche element. It's much smaller -- this isn't
18 necessarily like a MEEIA program. I would take issue
19 with that much money being allocated towards your
20 administrator.

21 I -- I -- I think we asked whether or not
22 they offered up a competitive --

23 JUDGE DIPPELL: Dr. Marke, I think you
24 answered the question. Let's wait for the next one.

25 THE WITNESS: Okay.

1 BY MS. MERS:

2 Q. For the same amount of program costs,
3 could you just give away electric forklifts?

4 A. That -- that could be an option.

5 Q. Did you attend the technical conferences
6 in this case?

7 A. I did.

8 Q. Did you share your concerns with the
9 programs at those times?

10 A. We did.

11 Q. Were you surprised to hear that you,
12 along with Staff, in a case where OPC and Staff were
13 able to come to a settlement regarding one-third of
14 the application with the Company have been
15 obstructionists?

16 A. I was a little taken aback. I think the
17 term was we didn't offer constructive criticism. I
18 would just point out that OPC has -- we've been very
19 vocal in three cases now against electric vehicle
20 charging stations. We actually said, Go do it.
21 We've -- we've got an offer out there. I think that's
22 the definition of providing constructive criticism is
23 that we -- we would like to see a path forward. So
24 I'm not entirely sure what the foundation is for that.

25 Q. Mr. Wills updated his required number of

1 EVs for the program to be cost effective from 7,500 to
2 8,890 in Surrebuttal. With that change, does OPC
3 support changing the -- I think you were calling it a
4 performance incentive, to reflect that update?

5 A. That seems appropriate.

6 Q. Would you say it's fair to characterize
7 OPC's position in the Charge Ahead EV program as the
8 details of the tariff and the program don't matter as
9 much as long as there is that performance incentive
10 and the shareholders have skin in the game versus
11 Staff's position is that a sharing mechanism might not
12 be necessary; what really matters is the tariff is
13 appropriately designed with details, including but not
14 limited to, budgets and parameters being in place?

15 A. I would agree with that. I think in -- I
16 have no problem saying this. I think Ameren did a
17 great job in designing this compared to their previous
18 iteration and compared to what we saw on the west side
19 of the state. We -- when we picked the numbers, we
20 selected those -- I mean those are numbers taken
21 straight from Mr. Willis' testimony. Those are numbers
22 that he's confident would happen.

23 Q. Can you explain how those numbers will
24 happen based on the tariff in this case?

25 A. The tariff definitely needs work. I

1 would admit to that, yes.

2 **Q. Okay. I -- do you have any --**

3 MS. MERS: I have no further questions.

4 Thank you.

5 JUDGE DIPPELL: Is there
6 cross-examination by ChargePoint?

7 MR. COMLEY: No questions, thank you.

8 JUDGE DIPPELL: Renew Missouri?

9 MR. OPITZ: No, thank you, Judge.

10 JUDGE DIPPELL: Ameren?

11 MR. LOWERY: Yes, Your Honor.

12 CROSS-EXAMINATION BY MR. LOWERY:

13 **Q. Good morning, Mister -- Dr. Marke.**

14 A. Good morning.

15 **Q. I want to clear up some numbers for the**
16 **record. I believe that you said -- and the record**
17 **will reflect, but if you said earlier in your**
18 **testimony that as of the end of 2016, 2017, whatever**
19 **numbers Mr. Pickles was using in his Direct Testimony,**
20 **that there was already 56 percent plus of adoption of**
21 **electric forklifts in Ameren Missouri territory, that**
22 **would be incorrect. Right? It's not 56-something, is**
23 **it?**

24 A. Can you repeat that again? I'm sorry.

25 **Q. Is it your testimony that Mr. Pickles in**

1 his Direct Testimony indicated that 56 percent plus of
2 the forklifts -- the Class I and II forklifts in
3 Ameren Missouri's tes-- territory were already
4 electric?

5 A. Yes.

6 Q. Would you turn to your Rebuttal Testimony
7 at page 6, line 5? And I realize it's a small
8 difference, but it's not 56 --

9 A. 54 percent.

10 Q. -- it's 54, isn't it?

11 A. You're right. I apologize.

12 Q. And while Mr. Clizer through his
13 questioning seemed to criticize Mr. Pickles for lack
14 of a citation to the 49.3 percent figure that
15 Mr. Pickles gives in his Surrebuttal Testimony, it's
16 true that Mr. Pickles testified that through June 2018
17 for Class I and II forklifts in Ameren Missouri's
18 service territory, that number is now 49.3; isn't that
19 right?

20 A. I think the issue here is that --

21 Q. Is that right or is it wrong?

22 A. It's what Mr. Pickles said.

23 Q. I didn't ask you what you think the
24 issues is. I asked you whether that's right or wrong.

25 A. I believe that's what Mr. Pickles said.

1 **Q. And you didn't mention that in your**
2 **narrative response to Staff counsel just now, did you?**

3 **A. I did not.**

4 **Q. You also testified in response to Staff**
5 **counsel's questions you -- your testimony seems to**
6 **suggest that we've had a steady march upward in**
7 **electric forklift market share. Correct?**

8 **A. Correct.**

9 **MR. LOWERY: May I approach, Your Honor?**

10 **JUDGE DIPPELL: Yes.**

11 **BY MR. LOWERY:**

12 **Q. You're familiar with Exhibit 12, are you**
13 **not? Mr. Pickles work paper that was entered into the**
14 **record yesterday.**

15 **A. I am.**

16 **Q. If we take a look -- and I think**
17 **specifically a moment ago you testified about 2009 on**
18 **and the Navigant report that's attached to your**
19 **testimony. Correct?**

20 **A. I did.**

21 **Q. And you indicated, I think, that Navigant**
22 **is essentially saying since 2009 forward, we've had**
23 **sort of this increase and I think it's in non-lead**
24 **asset -- as-- acid battery forklifts. We've had this**
25 **increase. Right? In forklift market share for those**

1 kinds of forklifts?

2 A. Just in electric shares since 2009.

3 Q. But if you look at -- if you look at this
4 work paper, which is the national data that you relied
5 on from ITA, since 2009, the pattern we've seen is we
6 were about 50 percent, then we went down to below
7 50 percent, we went up a little, went down a little,
8 up and we're back basically where we were. Right?
9 We're back where we started; isn't that right?

10 A. Can I explain?

11 Q. Is that right or is it wrong?

12 A. I think it's wrong.

13 Q. You think that this data doesn't show
14 that it was 50 percent and --

15 A. I think --

16 Q. Let me ask my question.

17 A. Sure.

18 Q. Does this data and the red line show that
19 it was about 50 percent in 2009 and it's about
20 50 percent now? Does it show that?

21 A. The red line shows that it's about
22 50 percent.

23 Q. That was my question.

24 Was the red line derived from the ITA
25 data that you used in your Rebuttal Testimony?

1 A. I do not believe it was.

2 MR. LOWERY: May I approach, Your Honor?

3 JUDGE DIPPELL: Yes.

4 BY MR. LOWERY:

5 Q Dr. Marke, I'm going to hand you a
6 document, ask you if you can identify it?

7 A. The ITA data that was utilized. The
8 PowerPoint.

9 Q. ITA data -- that's the same PowerPoint
10 you reference in your Rebuttal Testimony, is it not?

11 A. It is.

12 Q. And the data on page 17 is the data that
13 you relied upon to come up with your numbers in your
14 Rebuttal Testimony. Correct?

15 A. It was actually the slide on page 19, but
16 yes, that -- the slide on 19 is informed by data
17 that's on 17.

18 Q. The slide on 19 uses data from 17, does
19 it not?

20 A. It does.

21 Q. If I look at Mr. Pickles' work paper,
22 Exhibit 12, the second page, and I look at the column
23 on page 17 of this ITA presentation that has Class I
24 and II forklifts, I can -- I'll see the same numbers,
25 will I not? 36,747, 36,747, is that right for 1994?

1 A. Yes.

2 Q. If I look at the internal combustion
3 numbers, I'll see the same number on Mr. Pickles' work
4 paper as I'll see on the ITA presentation. Right?

5 A. That's right.

6 Q. And if I went through '94 to 2016 and I
7 looked at Mr. Pickles' work paper where he pulled
8 those same numbers, I will see the same numbers, will
9 I not?

10 A. No.

11 Q. Which -- which number's wrong in your
12 estimation?

13 A. So what's missing here is --

14 Q. First of all, can you answer my question?

15 A. I'm trying to.

16 Q. You said that -- you said that the
17 numbers weren't the same. Which numbers aren't the
18 same? We take the column for Class I and II forklifts
19 on the ITA presentation, we take the column for
20 internal combustion engines for the Class I and II --
21 for the Class IV forklifts on the ITA presentation for
22 '94 through '16, '94 through '16 --

23 MR. CLIZER: Your Honor, while I
24 appreciate that they're dealing with some numbers in
25 front of him, is it necessary for Mr. Lowery to be

1 standing over Marke?

2 MR. LOWERY: Well, I don't really know
3 how else I can show him the same numbers since I don't
4 have multiple copies of this.

5 JUDGE DIPPELL: I'm going to allow him to
6 continue.

7 BY MR. LOWERY:

8 Q. Did Mr. Pickles reproduce on page 2 of
9 his work paper the numbers in the Class I and II
10 column in the ITA presentation versus the Class IV
11 column? Did he re-- reproduce a number incorrectly?
12 Is that your testimony?

13 A. I'm saying Mr. Pickles selectively put
14 certain lines on there and left out other lines.

15 Q. Can you answer the question I just asked
16 you? Did he reproduce the numbers from the column for
17 Class I and II in the ITA presentation and the column
18 for the internal combustion engines, did he reproduce
19 the numbers incorrectly?

20 A. There's one line, so right off the bat
21 your question's flawed.

22 Q. Did he reproduce the numbers incorrectly
23 or not?

24 A. I'm -- I'm confused at this point. We
25 have one line here. You asked me if there was a -- if

1 he reproduced the Class I and II and if he reproduced
2 the Class IV and V.

3 **Q. On Mr. Pickles' work paper he has a**
4 **screenshot --**

5 A. He does.

6 **Q. -- of slide 17, does he not?**

7 A. He does.

8 **Q. Is that screenshot an accurate reflection**
9 **of slide 17 in the ITA presentation?**

10 A. I don't believe it's an accurate
11 representation. I think you need to see all of the
12 data to form a reasonable conclusion.

13 **Q. Well, you still haven't answered my**
14 **question.**

15 A. I think I have.

16 **Q. If we take the column in Mr. Pickles'**
17 **work paper for Class I and II --**

18 A. Okay.

19 **Q. -- and we take the numbers for '94**
20 **through 2016 and we take that same column in the ITA**
21 **presentation on -- on slide 17, are the numbers the**
22 **same or not?**

23 A. I don't know.

24 **Q. Well, take a look at them.**

25 A. I can't with only one line listed.

1 **Q. You're telling me that you can't look at**
2 **these -- however many numbers this is and look at the**
3 **same numbers here and you can't tell me or the**
4 **Commission if those numbers are the same?**

5 A. Mr. Lowery, I understand your
6 frustration. One -- please look at the data. Just
7 take a look at it.

8 **Q. Answer my question. Can -- are you**
9 **telling me --**

10 JUDGE DIPPELL: Let -- let me interrupt
11 since we appear to be getting nowhere here.
12 Dr. Marke, are the numbers on one slide the same as
13 the numbers on the other slide? Not -- not drawing
14 any conclusions. Are the numbers the same?

15 THE WITNESS: There's one set of numbers
16 on one slide. There are eight sets of numbers on
17 another slide.

18 BY MR. LOWERY:

19 **Q. I'll tell you what --**

20 A. Depending on how you --

21 **Q. -- I'll do this a different way.**

22 A. -- put them together, it matters.

23 JUDGE DIPPELL: All right. Perhaps --

24 BY MR. LOWERY:

25 **Q. I'll do this a different way.**

1 A. Okay.

2 Q. You relied -- you -- you cited this
3 presentation --

4 A. I did.

5 Q. -- in your testimony, did you not?

6 A. I did.

7 Q. And you pulled a graph from this
8 presentation. Correct?

9 A. I did.

10 MR. LOWERY: Your Honor, I don't have
11 copies of this, but I'd like to mark this as an
12 exhibit. We'll put it in the record and it will show
13 whether the numbers are the same or not.

14 THE WITNESS: Please.

15 JUDGE DIPPELL: I think that will be
16 helpful. Ameren's next exhibit is --

17 MR. LOWERY: 13 I believe, Your Honor.

18 JUDGE DIPPELL: -- Number 13, yes.

19 MR. LOWERY: And We'll get copies at a
20 break and get those for you, Your Honor.

21 JUDGE DIPPELL: And do any of the counsel
22 need to see what Mr. Lowery is offering?

23 MR. CLIZER: We have copies.

24 THE WITNESS: We have copies.

25 JUDGE DIPPELL: Okay. Would there be any

1 objection to Exhibit 13, which is -- can you describe
2 that?

3 MR. LOWERY: It's an Industrial Truck
4 Organization PowerPoint presentation involving
5 forklifts I think might be a good way to describe it.

6 JUDGE DIPPELL: The Industrial Truck
7 Organization PowerPoint.

8 MR. LOWERY: That's a fair description.

9 JUDGE DIPPELL: Would there be any
10 objection to Exhibit 13?

11 Seeing none, then I will admit Exhibit
12 13.

13 (Exhibit 13 was received into evidence.)

14 JUDGE DIPPELL: Go ahead, Mr. Lowery.

15 BY MR. LOWERY:

16 Q. Dr. Marke, did OPC suggest any specific
17 changes to the Business Solutions tariff that was
18 filed in this case?

19 A. We recommended that it not move forward.

20 Q. On the assumption that it were to move
21 forward, did OPC suggest that there were ambiguities
22 in the language or something that would improve the
23 tariff if it -- on the assumption that it would go
24 forward?

25 A. We did not.

1 Q. Now, you indicated that the costs were
2 high, administrative costs, implementation costs. And
3 you said something about half of the money going into
4 ICF's pocket. Do you remember saying that?

5 A. I do.

6 Q. Some of the expenses for implementation
7 are simply reimbursement for out-of-pocket expenses.
8 Wouldn't you agree?

9 A. I don't have a foundation for that.

10 Q. If ICF personnel are going to travel to
11 Missouri, for example, by airplane to the St. Louis
12 area to do marketing, education, implementation, et
13 cetera, they're going to incur airline costs, aren't
14 they?

15 A. It's administrative costs, sure.

16 Q. And that's not going to go in their
17 pocket. Right?

18 A. That is true.

19 Q. And if they stay in a hotel, that's not
20 going to go in their pocket. They're going to pay the
21 hotel and then they're going to get reimbursed. It's
22 not going in ICF's pocket. Right?

23 A. That's correct.

24 Q. So not necessarily all that money is
25 going in -- to use your words -- ICF's pocket; isn't

1 **that fair?**

2 A. That is fair.

3 Q. Now, you recognized I think that Ameren
4 Missouri's EV proposal, it's not the same as KCPL's
5 proposal because Ameren Missouri is not seeking to
6 rate-base any equipment. Right?

7 A. That's correct.

8 Q. And as a consequence, you think Ameren
9 Missouri's program is better than KCPL's program.
10 Right?

11 A. Yes.

12 Q. Now, both the proposed programs at issue
13 in this docket involve the Company paying incentives
14 for the stated purpose of inducing the use of electric
15 powered equipment instead of equipment powered by an
16 internal combustion engine. EVs in the EV case,
17 industrial equipment in the -- in the Business
18 Solutions. Right?

19 A. Yes.

20 Q. The idea -- and I think you indicate this
21 in your Rebuttal Testimony -- is that electrical
22 equipment will create more electric sales. The
23 Company would then have more sales over which to
24 spread its fixed costs. That's the idea. Right?

25 A. That's the idea.

1 Q. And under both of the proposed programs
2 as the Company has proposed it, from the time the
3 Company spends that money until it later gets cost
4 recovery in a future rate case, the Company is not
5 asking to rate-base those expenditures or to receive a
6 carrying cost on those expenditure in that period of
7 time, is it?

8 A. No.

9 Q. What Mr. Wills explains is that between
10 rate cases, the Company will keep -- this is my
11 term -- the positive regulatory lag, the increased
12 sales that would be induced -- will keep that to cover
13 its cost of capital instead of asking for cost of
14 capital adder from customers. Right?

15 A. Yes.

16 Q. Now, you agree that the Company has the
17 incentive not to make payments to induce someone to
18 use electric power equipment that would have been
19 adopted in the absence of the program, do you not?

20 A. That they have the incentive to?

21 Q. The Company has the incentive not to do
22 that. Right? You agree? Let me state it differently
23 because it must not be a good question.

24 The Company doesn't have an incentive to
25 make payments to somebody to -- that -- to somebody

1 that would have bought the electric equipment anyway.
2 Right? The Company doesn't have an incentive to do
3 that?

4 A. I would say that's true.

5 Q. And, in fact, what the Company's trying
6 to do is only pay incentives to people who wouldn't
7 have otherwise bought the electric equipment to get
8 additional sales to cover that cost of capital between
9 rate cases. Right?

10 A. That's the idea behind it.

11 Q. Now, another benefit the Company says
12 these programs have is an environmental one. Right?

13 A. Yes.

14 Q. And while you would contend that the
15 environmental benefit would be greater if Ameren
16 Missouri's generation mix was less dependent on coal
17 than it is today, you do agree that given the charging
18 patterns the Company indicates should be expected,
19 that any increased emissions from coal-fired
20 generation to provide the energy to cover the
21 consumption of these electric vehicles will be more
22 than offset by replacing the internal combustion
23 engines in the cars and equipment that's being
24 replaced. Right?

25 A. I wouldn't characterize it as more than

1 offsets.

2 Q. Do you have a copy of your deposition?

3 A. I do.

4 Q. Would you turn to page 121? Why don't I
5 first ask you -- before I ask you that. You don't
6 agree that the offset will be greater than the
7 increased emissions from whatever additional
8 coal-fired generation? Is that your testimony here
9 today?

10 A. In an aggregate over time, it would.

11 Q. Okay. In aggregate over time, it would
12 be?

13 A. Yes.

14 Q. And you agree that the Company is adding
15 a significant amount of wind generation?

16 A. That -- yeah, that's still in process,
17 but yes.

18 Q. And those additions are going to -- as we
19 move forward, are going to continue to make Ameren
20 Missouri's generation mix greener than it is today?

21 A. Greener than it is today, yes.

22 Q. Which will continue to improve the --
23 would continue to enhance the benefit -- the
24 environmental benefit you would see from adopting more
25 electric vehicles or the electric powered equipment?

1 A. More renewables would help that, yes.

2 Q. Now, in your Rebuttal Testimony at
3 page 20, lines 21 to 23, you claim that Ameren
4 Missouri would have certainty in its EV proposal while
5 customers would have uncertainty. Do you remember
6 saying that?

7 A. That sounds familiar. You said page 21?

8 Q. Page 20, lines 21 to 23.

9 A. Yes. Asymmetric risk.

10 Q. What you said was, No person in a
11 transaction should have certainty about the outcome
12 while the other has uncertainty, especially when one
13 of the parties is -- to the -- in the transaction is
14 captive.

15 Was that your testimony?

16 A. That is my testimony.

17 Q. Your claim that Ameren Missouri has
18 certainty under the EV program as proposed is an
19 overstatement, is it not?

20 A. I would agree -- I'm sorry. Please say
21 that again.

22 Q. The statement I just read to you that
23 Ameren Missouri has certainty under the EV program as
24 proposed, that statement that Ameren Missouri has
25 certainty is an overstatement, is it not?

1 A. Is this a prudency question?

2 Q. Can you answer my question or not?

3 A. Ameren Missouri would not have
4 100 percent certainty I think is -- I would agree with
5 that.

6 Q. Which means when you said Ameren Missouri
7 had certainty, that's an overstatement; isn't that
8 fair?

9 A. I -- I wouldn't characterize it as an
10 overstatement, no.

11 Q. Could you turn to page 141 of your
12 deposition?

13 A. Let me catch up here, Mr. Lowery.
14 All right. I'm there.

15 Q. I'm looking at line -- starting at line
16 20 on page 141, continuing to line 7 on page 142.

17 We -- I did take your deposition last
18 week. Correct?

19 A. Oh, definitely.

20 Q. Oh, definitely. Were you under oath at
21 that time?

22 A. I was.

23 Q. Were you capable of answering questions
24 honestly at that time?

25 A. I was.

1 Q. So let me ask you if I asked you the
2 following questions and if you gave the following
3 answers?

4 "Question: You indicated at page 20,
5 lines 11 or lines 21 to 23 of your Rebuttal
6 Testimony -- and you can look at it, but I'm going to
7 paraphrase and correct my paraphrasing if you don't
8 think it's accurate."

9 A. Okay.

10 Q. "But you claim that Ameren Missouri would
11 have certainty in its proposal for Charge Ahead EV
12 while customers would have uncertainty. That was the
13 point you were making. Right?"

14 And your answer was yes. Correct?

15 A. I see that.

16 Q. And then I asked you, "Question: Isn't
17 it an overstatement to say that Ameren Missouri would
18 have certainty?"

19 Then you said, "Answer: It's been my
20 experience it's very difficult to -- it's an
21 overstatement."

22 Did I read that accurately?

23 A. No. That's what it says.

24 Q. Well, I asked you did I read it
25 accurately? And the answer is yes, I read it

1 accurately, did I not? Isn't that the answer?

2 A. That is accurate.

3 Q. And the reason Ameren Missouri doesn't
4 have certainty is that if it spends 11 million dollars
5 on the EV program but doesn't induce more EV adoption
6 having done so, since it's not putting that 11 million
7 in rate-base, it will actually cost itself money;
8 isn't that right?

9 A. It could potentially cost some money,
10 yes.

11 Q. Now, you've pointed out -- you've pointed
12 to some cobalt supply risks in your testimony. And I
13 think your point was that the risk could increase the
14 battery costs -- battery costs could increase because
15 the cobalt supply issue and that could be a headwind
16 against EV adoption. That was your point. Right?

17 A. In part.

18 Q. You agree that the cost of batteries has
19 come down quite a bit in the last few years despite
20 the cobalt issue you identified. Correct?

21 A. I -- I do.

22 Q. It would not surprise you -- well, you
23 agree that smart scientists and engineers are working
24 probably every day -- every day to figure out an
25 alternative to using cobalt. Right?

1 A. Yes.

2 Q. Wouldn't surprise you if the industry
3 innovates in a way that allows them to find an
4 alternative to cobalt, would it?

5 A. Hopefully.

6 Q. Well, it wouldn't surprise you if they
7 did. Correct?

8 A. I think there's capable people. It would
9 not surprise me.

10 Q. You would agree, do you not, that if a
11 utility can find new revenue streams and do so in a
12 cost effective manner that does produce benefits for
13 ratepayers, there's nothing necessarily wrong with a
14 utility doing that. Correct?

15 A. Correct.

16 Q. You agree that adding load via both off
17 road and on road electric vehicles or equipment
18 creates the opportunity to make load more responsive
19 to supply conditions, assuming there's excess supply,
20 would you not?

21 A. Assuming -- yes.

22 Q. Now, you didn't offer alternative
23 economic analyses to the analyses offered by
24 Mr. Wills, did you?

25 A. No. Other than including MEEIA

1 attachments from the previous iteration. I still
2 stand by those to the previous case.

3 **Q. Let me narrow my question. Mr. Wills**
4 **produced some economic analysis, some financial**
5 **analyses, cost effectiveness, et cetera in this case.**
6 **You didn't conduct your own analyses to rebut those**
7 **analyses in this case. Right?**

8 A. No. My analysis was on trying to find a
9 path forward.

10 **Q. Mr. Wills presented some residential**
11 **charging powers in his Surrebuttal Testimony. And you**
12 **agree that the Progress Energy and ICF patterns that**
13 **he depicted in that testimony are reasonable**
14 **depictions of what you would expect, do you not?**

15 A. Could you point me to the --

16 **Q. Do you have his --**

17 A. -- deposition where that issue came up?

18 **Q. Well, do you not know if you agree?**

19 A. I don't have Mr. Wills' testimony in
20 front of me.

21 **Q. How about if I give it to you?**

22 A. Okay.

23 **Q. Do you recognize that as Mr. Wills's**
24 **Surrebuttal Testimony?**

25 A. I do.

1 **Q. And on page 35 -- that's the page I've**
2 **handed you, did I not?**

3 A. I remember, yes.

4 **Q. And you agree that the Progress Energy**
5 **and ICF patterns for residential charging are**
6 **reasonable depictions of what we should expect, do you**
7 **not?**

8 A. Yes.

9 **Q. You also agree, I think, that the**
10 **workplace charging patterns shown on the next page of**
11 **his Surrebuttal Testimony is also a reasonable**
12 **depiction of when we should expect workplace charging**
13 **to take place. Right?**

14 A. I'm going to ask again, Mr. Lowery. Do
15 you remember where in my deposition I mention this?

16 **Q. I do, but I need you -- I need you to**
17 **either be able to answer my question or not first.**

18 A. I think -- I believe my response was
19 they're reasonable assuming it's being priced
20 accordingly.

21 **Q. Well, let's turn to page 119 of your**
22 **deposition.**

23 A. Okay.

24 **Q. Let me ask my question again.**

25 A. Please.

1 **Q. Do you agree that the workplace charging**
2 **patterns shown by Mr. Wills at page 36 is a reasonable**
3 **depiction of when workplace charging is probably going**
4 **to take place? Do you agree with that or not?**

5 A. Looks like I took issue with the NREL
6 number. And you said Progress Energy and ICF.

7 **Q. I'm not even asking you about those. I'm**
8 **asking you about the workplace charging pattern --**

9 A. No, no, I understand.

10 **Q. -- on page 36.**

11 A. Right. Just -- please just give me a
12 second to read what I --

13 **Q. Sure. Is it your testimony today you**
14 **cannot give me an unqualified answer of yes to the**
15 **question I just asked you?**

16 A. I don't think that's what I'm saying.

17 **Q. Okay. You're looking for page 119, lines**
18 **20 to 23.**

19 A. I think my response was yeah. Yes.

20 **Q. Without a qualifier about -- without --**
21 **an unqualified yes, was it not?**

22 A. Yes.

23 **Q. And while there's subjectivity in**
24 **developing the Around Town charging pattern that also**
25 **is shown on Mr. Wills's Surrebuttal Testimony at**

1 page 36, you would agree that it depicts a reasonable
2 charging pattern for public charging as well.

3 Correct?

4 A. This one (indicating)?

5 Q. Right. That's the Around Town one.

6 Right? That's the public charging pattern load shape.

7 Correct?

8 A. Yes, it is.

9 Q. And you would agree that that is a
10 reasonable depiction of a charging pattern for public
11 charging as well. Correct?

12 A. I believe I -- the -- the comment that I
13 made was we don't know. But yes, it -- sure.

14 Q. I'm not asking you what you said a week
15 ago. I'm asking you for your testimony today. Do
16 you -- do you agree that that public charging load
17 shape in Mr. Wills's testimony at page 36, that it
18 is -- depicts a reasonable pattern for public charging
19 or not? Do you agree with that?

20 A. I would agree.

21 Q. Now, to the extent EVs would charge at
22 the time of system peak, so they would charge in
23 whatever hour Ameren Missouri's system peaks --

24 A. Okay.

25 Q. -- there would be some additional

1 **capacity costs incurred. Right?**

2 A. There would.

3 **Q. But Mr. Wills did account for the**
4 **increased capacity costs that he estimated would occur**
5 **for EVs charging during that period in his analysis,**
6 **did he not?**

7 A. Yes.

8 MR. LOWERY: I don't have any further
9 questions, Your Honor. Thank you.

10 JUDGE DIPPELL: Thank you. Are there
11 Commission questions for Dr. Marke? Mr. Chairman?
12 Commissioner Kenney?

13 COMMISSIONER KENNEY: No, thank you. I
14 appreciate it, Dr. Marke

15 JUDGE DIPPELL: Commissioner Rupp?

16 QUESTIONS BY COMMISSIONER RUPP:

17 **Q. Morning.**

18 A. Good morning.

19 **Q. So when it comes to forklifts, absent a**
20 **price on carbon, will we ever hit 100 percent adoption**
21 **of non-fossil fuel type forklifts? And if -- if it's**
22 **not 100 percent, where do you see the market capping**
23 **out at?**

24 A. I'm optimistic that the technology's
25 advancing in such a manner -- really I think it's a

1 matter of torque. I think as long as you're able to
2 go ahead -- and the extension of that battery. Right?
3 So you look at manufacturing processes, they're more
4 24-hour shifts. right? I'm thinking Amazon, I'm
5 thinking these sort. The technology should advance to
6 that point. I mean it already is. The Navigant study
7 goes at length talking about that. And they've got
8 what I think are conservative projections moving
9 forward.

10 **Q. And I don't remember what their**
11 **projections were. What are -- can you ball park?**

12 A. Well, I think more than anything what
13 you're seeing is -- is a change in the service
14 economy. Right? And I know Mr. Lowery and I had that
15 exchange earlier over, you know, specific numbers,
16 but --

17 **Q. Which was rifting, by the way.**

18 A. I'm sure. At the end of the day, I think
19 what's lost in that translation is, is that we're
20 quibbling over 45 percent, 50 percent, 60 percent.
21 It's a commanding market share. And it's --
22 everything is pointing that that's going to be more
23 pronounced moving forward.

24 If -- if this was at that EV point, which
25 is the other face of this, that .06 percent that we

1 see in Kansas City Power & Light, there would be a
2 stronger argument to -- to induce that market as a
3 subsidy.

4 **Q. So you mentioned Amazon. Isn't Amazon**
5 **switching most of their -- or has planned to switch**
6 **theirs over to hydrogen type --**

7 A. You're right. Yeah. And hydrogen is
8 another one. And that, from an environmental
9 standpoint, is -- is a good one too. And the Navigant
10 study does talk about that too.

11 **Q. So I guess getting back to whether it's**
12 **43 percent, 45 percent, 50 percent and the red line is**
13 **hovering, is the underlying question should you be**
14 **offering a subsidy to something that has that high of**
15 **a market share?**

16 A. If there's a take-away point, that's a
17 pretty good one.

18 **Q. So how much of the overall program costs**
19 **are attributed to the forklift program?**

20 A. I have a breakdown in my testimony.

21 **Q. Can you point me to that?**

22 A. It's page 6. It's -- I have forklifts
23 and trucks. What you see there is third-party
24 administration costs; direct, commercial, subsidy and
25 then the total. Both the forklifts, trucks and then

1 the airport section.

2 It looks like there's 3.6 million
3 allocated towards forklifts and trucks. I mean I
4 would note -- and there's a footnote on -- in Number 4
5 that says the math actually doesn't equal out later in
6 the testimony. So there's maybe a 30,000 or -- delta
7 between the two.

8 **Q. And can you break down -- break out the**
9 **forklifts from the trucks? And if you can't on the**
10 **spot, I -- just didn't know if that had -- if I --**

11 A. It's -- it's -- it's -- the majority of
12 it's forklifts. It's -- it's less for trucks. I
13 don't remember the exact number.

14 **Q. So if you were to remove the forklift**
15 **piece from this entire program --**

16 A. Uh-huh.

17 **Q. -- the entire program costs would come**
18 **down significantly?**

19 A. It would.

20 **Q. All right. Thank you.**

21 JUDGE DIPPELL: All right. Is there any
22 further cross-examination from Staff based on
23 Commission questions?

24 FURTHER CROSS-EXAMINATION BY MS. MERS:

25 **Q. You had a question from Commissioner Rupp**

1 about the program costs tied to forklifts. Under the
2 tariff, can Ameren reallocate the remaining truck
3 money to forklifts under its discretion?

4 A. My understanding is they can.

5 Q. And have you seen sub-budgets for any of
6 these programs?

7 A. Sub-budgets? Can you help me -- maybe
8 provide an example.

9 Q. Is there anything in the tariff that ties
10 a specific program cost or specific budget to specific
11 measures?

12 A. I don't think I can say off the top of my
13 head.

14 Q. Okay. Thank you.

15 JUDGE DIPPELL: Is there any further
16 cross-examination from ChargePoint?

17 MR. COMLEY: No questions. Thank you.

18 JUDGE DIPPELL: Renew Missouri?

19 MR. OPITZ: No, thank you, Judge.

20 JUDGE DIPPELL: Ameren?

21 FURTHER CROSS-EXAMINATION BY MR. LOWERY:

22 Q Just -- I think just one or two. We'll
23 see. Commissioner Rupp asked you some questions about
24 forklift market share and so on. Do you remember
25 that?

1 A. I do remember that.

2 Q. And you -- you have your Rebuttal
3 Testimony in the Navigant report that's attached to it
4 with you, do you not?

5 A. Yes.

6 Q. Would you turn to page 15 of the Navigant
7 report?

8 A. I'm there.

9 Q. The second sentence on page 15 indicates
10 that conventional lead-acid batteries are expected to
11 remain popular in the North American forklift market
12 in the near future because of a well-established
13 supply chain and the conservative nature of the
14 forklift se-- sector.

15 Did I read that correctly?

16 A. Yes.

17 Q. And turn back to page 13 of that same
18 report. And the second full paragraph right above
19 chart 3, do you see that?

20 A. The chart or the full paragraph?

21 Q. I'm asking if you see the paragraph right
22 above the chart --

23 A. I do.

24 Q. -- that starts out, While prices. Do you
25 see that?

1 A. While prices, yes.

2 Q. While prices of advanced lead-acid and
3 Li-on batteries, collectively referred to as advanced,
4 and hydrogen fuel cells are expected to decrease
5 throughout the forecast period, the overall percentage
6 of market share for these technologies is anticipated
7 to remain flat; isn't that right? Is that what it
8 says?

9 A. That's what it says.

10 Q. So lead-acid batteries are going to
11 remain popular the report says, does it not, on page
12 15?

13 A. That's what it says there.

14 Q. On page 15?

15 A. On page 15, yes.

16 Q. And these advanced lead-acid and Li-on
17 batteries and hydrogen fuel cells, even though the
18 price is going to go down, the overall market share
19 for those advanced batteries is expected to remain
20 flat. Isn't that what the report says?

21 A. That's what the report says there.

22 Q. Thank you. That's all I have.

23 JUDGE DIPPELL: Is there redirect?

24 MR. CLIZER: Yes, Your Honor. Thank you.

25 REDIRECT EXAMINATION BY MR. CLIZER:

1 **Q. Dr. Marke, you just had a few questions**
2 **from Ameren regarding the Navigant report and you**
3 **indicated that there was at least somewhere else in**
4 **the report that needed to be considered. What else**
5 **from the report would need to be considered with**
6 **regard to the questions you were just asked?**

7 A. Chart 1 on page 1, it's titled Advanced
8 Electric Forklift Sales by Technology. What you see
9 here is an advancement of advanced electric lead --
10 advanced lead forklifts and advancement of lithium ion
11 battery forklifts and advancement of fuel cell
12 forklifts.

13 On page 2, the Industrial Truck
14 Association, the leading North American trade
15 organization for manufacturers and suppliers of
16 forklift equipment, reported that electric forklift
17 sales increased by over 8 percent from 2014 to 2015
18 representing 63.4 percent of the entire forklift
19 share. On page 5 -- no, that's through donors.

20 For those that are more interested in the
21 advancement of electric forklifts and potential there,
22 I would just encourage to read the Navigant study. I
23 think it's easy to pick and choose one individual
24 sentence without taking into context the entire study.
25 Or just Google search this issue. That's another way

1 to familiarize yourself with it.

2 Q. You also received a question from
3 Commissioner Rupp. He wanted to know whether or not
4 it was likely you would ever hit 100 percent market
5 share. Is it likely to hit 100 percent -- or is it
6 common for any market or technology to reach
7 100 percent market share?

8 A. It's very difficult.

9 Q. Going back to the questions that were
10 asked before Commissioners, Ameren asked you a
11 question regarding the economic analysis performed by
12 Mr. Wills and whether or not you had performed your
13 own. Did we incorporate or -- sorry. Did you
14 incorporate or utilize Doctor -- Mr. Wills' economic
15 analysis --

16 A. Yes, I did.

17 Q. -- in your Rebuttal?

18 How so?

19 A. So both Staff -- and I know Staff takes
20 issue with Mr. Wills' analysis with the RIM analysis
21 and I realize that Ameren takes issue with Staff's
22 issue. Conversely, Ameren takes issue with our
23 projections.

24 If I point to Mr. Wills' testimony at
25 page 34, Footnote 14, the magic number here is 7,500.

1 That's our performance based metric. And we utilized
2 the base assumption of electric vehicle adoption
3 moving forward. I know Mr. Kenny -- Commissioner
4 Kenney, you had a lot of questions about this
5 yesterday, whether or not there was a forecast of EV
6 adoption that was going to take place. We've got that
7 in your testimony.

8 And Mr. Wills utilizes that forecast when
9 they're making their assumptions. And he says, For
10 this RIM test, I'm including the benefits associated
11 with all EVs on the road in the base adoption scenario
12 and the costs associated with all the incentives and
13 other costs expected to be incurred by the program.

14 Now, in Surrebuttal he raises the number
15 up to 8,900. And if -- if that's a number that Ameren
16 feels comfortable with that that's a more legitimate
17 number than the 7,500, we're not going to take issue
18 with that. The issue wasn't us quibbling over the
19 specific inputs of the RIM -- RIM test.

20 Ours was more of a principle issue in
21 that you say you're going to do something by having 11
22 million dollars thrown at it. Have some follow
23 through. Show that you're actually going to execute
24 on it. Absent that, then we're just writing a blank
25 check and just hoping things will just happen.

1 So there's a degree of accountability.
2 And I'll bet by Mr. Wills' own statements in this
3 case -- here's the Q and A, Is it reasonable to
4 believe that more than 7,500 new vehicles will result
5 from the Charge Ahead electric vehicle program?

6 Mr. Wills answered, Absolutely.

7 And basically everything from page 28 to
8 33 supports and was utilized as our mechanism for --
9 for designing the performance based metric. So yes,
10 we did utilize their numbers.

11 **Q. Ameren also asked you a question**
12 **regarding adding load and how that can be beneficial**
13 **to a company. Is it always beneficial to add load?**

14 A. I think it's important to figure out what
15 your policy objectives are. And OPC has taken issue
16 with an all-the-above yes objective. Because when we
17 say yes to everything, we tend to cancel out other
18 policy objectives.

19 And MEEIA is a very good example. Two
20 weeks ago, a week ago, I was up here in front of the
21 Commission defending the stipulation entered into by
22 parties for Ameren's MEEIA 3. The questions that we
23 got from the Commission at that point were but this
24 isn't going to defer any supply side investment, is
25 it? No, it's not. They're very long on capacity.

1 And then the hope was, well, will this
2 retire future supply side investment that's already in
3 line quicker? Well, if that's a policy objective, to
4 go ahead and get a coal plant down earlier, this is
5 clearly not going to do that. This is going to go
6 ahead and maintain those.

7 Now, again, the policy objective is
8 important. I'm not advocating for one or the other.
9 It's just that we're -- we're moving forward with
10 things that are canceling out each other, which
11 negates the benefits ultimately to customers.

12 **Q. Ameren asked you a question regarding**
13 **your testimony section on cobalt supply and kind of**
14 **ventured into whether or not new battery technology**
15 **might mitigate that concern. What was the purpose of**
16 **your inclusion of that report in your testimony?**

17 A. Let's assume for a second we don't come
18 up with a new alternative to the lithium ion
19 batteries. And that's a precious mineral, cobalt.
20 All right? And the point of including that in there
21 was that there was a degree of risk that this might
22 not materialize.

23 And if that was the case, ratepayers
24 would be subsidizing putting forward a considerable
25 amount of money to something that would ultimately not

1 be utilized. There's a lot of uncertainty all around
2 and it's -- the idea behind the performance based
3 metric is -- is to -- to recognize that on both sides.

4 **Q. Speaking of certainty, there was some**
5 **discussion about whether or not Ameren would have**
6 **certainty. And you agree that Ameren would not have**
7 **100 percent certainty under their proposal. I think**
8 **specifically Lowery talked about the idea that they**
9 **were going to bear the risks for the carrying costs of**
10 **their program. Do you have an idea of what that risk**
11 **might be or how much that might be?**

12 A. I hesitate to say a rounding error. In
13 the great scheme of things when we're talking about
14 Ameren Missouri's overall revenue requirement and the
15 amount of money we're talking here, it's -- it's a
16 drop in the bucket. And conversely, that works --
17 that could be an argument to say, well, that's not
18 that much risk exposure to ratepayers.

19 Obviously there's a concern with
20 precedent with that. Every dollar matters. So a
21 slight increase to bills to, you know, low-income
22 communities and -- and just really the market in total
23 isn't something that we -- we take lightly. So we
24 want these -- we want it to be prudently spent
25 dollars.

1 It's been our experience after the fact
2 it's extremely difficult to go ahead and argue
3 prudence on an issue. I don't want to be in a
4 position where our office is being accused of Monday
5 morning quarterbacking something. We wanted to put it
6 out front and we wanted to be as transparent as
7 possible.

8 **Q. Do you have an idea what the specific**
9 **dollar amount for this program might be?**

10 A. For?

11 **Q. For Ameren's risk. Or what Ameren's**
12 **claim that it's risking, the carrying costs.**

13 A. I -- I -- I believe it -- we had done a
14 back-of-the-envelope calculation and came up with
15 about 200,000 dollars. It's a bit dependent on rate
16 case timing.

17 **Q. There was some discussion on the**
18 **environmental impacts of Ameren's proposal. And I**
19 **believe you had mentioned -- and I'm probably going to**
20 **misquote this -- that the -- in the aggregate over**
21 **time, this would be environmentally beneficial. Are**
22 **there other concerns that we need to concern in**
23 **determining the full environmental impact of this**
24 **proposal?**

25 A. If we were in Washington where it's

1 largely hydro, I think there's a very strong
2 environmental argument -- and there has been in that
3 state to go ahead and push aggressive EV adoption.
4 Where -- we're in a state in -- in a region that's
5 predominately fossil fuel.

6 If the goal is to reduce emissions, which
7 I'm not sure that is the goal of -- of what we're set
8 out to do, there are more cost effective means of
9 doing that. And the timing matters.

10 And to Staff's point before, I mean those
11 load shape curves, when you're charging this matters.
12 So if you're charging at peak hours, you're absolutely
13 more inclined to go ahead and use fossil fuel
14 intensive energy sources than not. Absent having a
15 price incentive, a price signal to consumers to charge
16 during this time as opposed to another time, you're
17 negating a lot of those environmental benefits.

18 **Q. You were asked whether or not Ameren**
19 **would have an incentive, I believe that was the term**
20 **that was used -- and I'm going to paraphrase this and**
21 **I'm probably going to butcher it -- to pay someone who**
22 **would otherwise not have adopted -- I think that's --**
23 **I think that was kind of the question. Correct me if**
24 **you think I'm wrong. Is this all same -- is this also**
25 **true for ICF?**

1 A. No. No. And this is the principle agent
2 problem. Again, with Ameren we really do have a
3 differentiation between those that design the program,
4 those that implement the program and those that
5 evaluate the program. Obviously scale matters on
6 something like that.

7 In this program, you have all three of
8 these activities being done by one company. And at
9 the end of the day, regardless of that company's size,
10 there's going to be a handful of people that clearly
11 have a perverse incentive. And I'm not questioning
12 their ethical integrity. This is just -- it's just a
13 principle agent problem and it's well documented in
14 literature.

15 **Q. You were asked a question about whether**
16 **or not we had made suggestions or proposals to change**
17 **the Business Solutions tariff, and you answered no.**
18 **Is there a reason for that?**

19 A. We have issues on a macro level with
20 promoting an aggressive load building program in
21 conjunction with a demand side reduction program
22 that -- that's somewhat questionable to begin with.
23 We've got issues with the promotional practice issues.

24 Putting those two things aside, we took
25 issue with the design of the program itself. That is

1 why -- we didn't even get to the point where we were
2 offering meaningful testimony on MEEIA and its
3 interplay with the Charge Ahead program or the
4 interplay with the promotional practices or
5 prohibitive promotional practices in the Charge Ahead
6 program. Our -- we saw a flaw right off the bat with
7 the design of the program itself.

8 **Q. Do you still have a copy of -- I believe**
9 **it was Exhibit 12, the Pickles' work paper that was**
10 **entered into evidence yesterday?**

11 A. I don't in front of me, no.

12 MR. CLIZER: All right. Well, in that
13 case, permission to approach?

14 JUDGE DIPPELL: Go ahead.

15 MR. CLIZER: I'm not sure if I'll be
16 marking this as an exhibit. I'll explain in just a
17 second, but I'm going to give you six copies. I'll
18 leave one with the court reporter just in case it
19 needs to be marked.

20 MR. LOWERY: Can I inquire as to what's
21 being given to the Commission?

22 MR. CLIZER: I'll describe it in just a
23 second, but -- and I'll even give you a copy.

24 MR. LOWERY: All right.

25 BY MR. CLIZER:

1 Q. Dr. Marke, did I give you a copy?

2 A. You did.

3 Q. Just to make clear what we have in front
4 of us here, this is data from that same North American
5 lift truck industry that you relied on. Correct?

6 A. Correct.

7 Q. And while I know you don't have it in
8 front of you, I believe this is actually the same data
9 that's included at one point in Pickles' work paper,
10 although I'm not confident to say that with any
11 certainty.

12 MR. CLIZER: I suppose it's best to go
13 ahead and ask this be marked as an exhibit. I would
14 be up to 204, I believe.

15 JUDGE DIPPELL: That's correct. This
16 isn't the same as the one that Mr. Lowery had, is it?

17 THE WITNESS: It is.

18 JUDGE DIPPELL: Is this part --

19 MR. LOWERY: Page -- unless they've come
20 up with some other source, page 17 of Exhibit 13
21 already has this exact same information on it.

22 MR. CLIZER: We just wanted to supply a
23 larger version so it was easier to read essentially,
24 but if -- if we all agree that it's the same, then I
25 won't even ask to have it marked as an exhibit

1 since --

2 MR. LOWERY: Well, I think we do except
3 the witness, of course, wouldn't admit that it was the
4 same when I asked him on cross-examination.

5 THE WITNESS: That's not fair.

6 JUDGE DIPPELL: Okay. We will not get
7 into that. But Mr. Lowery, do you agree that this is
8 the same as -- and what page again?

9 MR. LOWERY: Appears to be exactly the
10 same as the data on slide 17 of Exhibit 13.

11 JUDGE DIPPELL: Okay. I may just attach
12 this to that copy if it is, in fact, more legible by
13 the time it gets scanned into EFIS.

14 MR. LOWERY: Yeah. When we give -- when
15 we give you these copies that we're going to provide,
16 of course you're going to have the full page in the
17 exhibit, so.

18 JUDGE DIPPELL: Okay. Okay. That's
19 fine.

20 MR. CLIZER: That would be much easier.
21 Sorry.

22 BY MR. CLIZER:

23 **Q. Anyways, there was obviously a protracted**
24 **discussion regarding these numbers and you had some**
25 **concern with how Mr. Lowery was characterizing some**

1 **things. Can you please just walk through what your**
2 **concerns were or help us understand what the issue**
3 **was?**

4 A. So my issue was with Mr. Pickles' work
5 paper. I'm not going to go down that rabbit hole. I
6 don't think it's worth going down. You know, that's
7 available. It's on the record.

8 I would ask the Commission just to look
9 at the numbers here. You've got four columns. One
10 column is years. It's between '94 and 2016. The
11 second column is electric riders, Classes I and II,
12 that's electric. Class III is electric too, but those
13 are really -- those are smaller forklifts. We don't
14 count those. We're not incentivizing those. So just
15 dismiss Class III altogether. And then the last
16 column is Class IV and V and that's internal
17 combustion.

18 If you just compare column 2 to column 4
19 on a year by year basis, what you'll see is the gap is
20 narrowing. Year over year you're getting more and
21 more electric compared to the internal combustion.
22 You can fast forward -- just compare '94, which is at
23 36,747 compared to 65,000 to 2016 --

24 COMMISSIONER KENNEY: Dr. Marke, are
25 these sales?

1 THE WITNESS: These are shipments.

2 COMMISSIONER KENNEY: Shipments.

3 THE WITNESS: Which is a really good --
4 good question. And what's missing from this, which
5 would really add more color, is how many of these
6 forklifts are actually out there. Right?

7 COMMISSIONER KENNEY: Okay. So this is
8 the amount -- numbers shipped from China to America?
9 This particular one? I mean I just -- I don't read
10 Chinese, but --

11 THE WITNESS: I -- my understanding is
12 that the Inter-- Industrial Truck Association
13 represents about 90 percent of the forklift operators
14 and manufacturers in the world.

15 COMMISSIONER KENNEY: Well, you said
16 these are the numbers shipped. I'm just trying to
17 understand, are they shipped from -- all machines
18 shipped from overseas or all machines shipped from a
19 plant to an industry or all machine -- what is that?
20 Because I don't -- this is just a partial of the --
21 I'm just curious so I can follow.

22 THE WITNESS: It's a good question and I
23 don't have a good -- an accurate answer for you
24 whether or not those are international shipments
25 and -- and domestic or just international.

1 COMMISSIONER KENNEY: But this is -- this
2 is some finite set that -- a historical perspective of
3 whatever numbers are the same numbers and they don't
4 vary? It's -- by that I mean it's the same -- same
5 queue. So whether it's international shipments,
6 whether it's total units shipped --

7 THE WITNESS: Right. Yes.

8 COMMISSIONER KENNEY: -- from anywhere --

9 THE WITNESS: Yes.

10 COMMISSIONER KENNEY: -- it's all the
11 same?

12 THE WITNESS: Right.

13 COMMISSIONER KENNEY: All right. Thank
14 you.

15 THE WITNESS: And both Mr. Pickles and I
16 used these numbers. So if there's any --

17 COMMISSIONER KENNEY: I just wanted to
18 get clarification. Thank you.

19 THE WITNESS: The -- the -- the take-away
20 point that you should look at this is that the
21 electric forklift share is becoming more and more
22 dominant year over year. And obviously there's going
23 to be variation. What's the biggest impact on US
24 shipment of forklifts? The economy. You can see that
25 in 2009. There's only 28,000 forklifts going out that

1 year. Not a lot of manufacturing. Obviously that's
2 going to be picking up here, you know, for a variety
3 of reasons. A more robust economy.

4 Now -- now factor in the Navigant study
5 which says that moving forward, you're going to see
6 more ion electric forklifts and fuel cells. And to
7 Mi s-- Commissioner Rupp's point, hydrogen too. I'm
8 aware Wal-Mart signed a contract not too long ago for
9 a thousand plus hydrogen forklifts that they wanted to
10 utilize. So clearly the movement is away from
11 internal combustion forklifts.

12 BY MR. CLIZER:

13 **Q. And that is consistent with the Navigant**
14 **report you relied on as well. Correct?**

15 A. Yes.

16 **Q. Dr. Marke, do you still have a copy of**
17 **Mr. Pickles' Surrebuttal?**

18 A. I do.

19 **Q. Good. Could you find Figure 1 for me?**
20 **Unfortunately, I gave you mine so I can't you what**
21 **page number it's on.**

22 A. Page 11.

23 **Q. Thank you. There was some discussion --**
24 **and I'm hesitant to say this. I think someone said**
25 **49.3. I think it's actually 49.6 in the diagram.**

1 **That's what Mr. Pickles has represented as Ameren's**
2 **market share?**

3 A. Right.

4 **Q. Do we know where those numbers have come**
5 **from?**

6 A. So this is where -- this is the rabbit
7 hole. This is where Mr. Lowery and I were -- were
8 taking issue with. we've got one line there. Right?
9 And my issue was with, you should have more than one
10 line if you're going to be comparing this. Where is
11 the electric forklifts in relation to the industrial
12 and to the internal combustion? And again, moreover,
13 what does that mean for the overall market saturation?

14 But even putting those things aside,
15 Mr. Pickles' own testimony, his own primary data --
16 because that's really all that matters. We don't --
17 at the end of the day we don't care about North
18 America. We care about what takes place in Ameren
19 Missouri's service territory.

20 In Ameren Missouri's service territory,
21 it's higher than this. It's 54 percent. Now, he says
22 it's 49.6 percent. Well, I'm sure the record will
23 show Mr. Lowery has put forward that 49.6 is the new
24 updated saturation study.

25 You know, we made a point yesterday

1 asking Mr. Pickles on the stand whether or not he had
2 updated his market potential study from 2016 and his
3 answer was no. So I don't know the number behind
4 that, but again does it matter that it's 49.6 or
5 54 percent? It's still more than half. That's --
6 that's the point.

7 **Q. All right. You were asked a few**
8 **questions by Ms. Mers of Staff. And at one point**
9 **there was discussion on the ability of a company to**
10 **add new forklifts and you mentioned something to the**
11 **extent it's not a binary option. Do you remember**
12 **that?**

13 A. Yes.

14 MR. CLIZER: Permission to approach and
15 I'd request to mark an exhibit.

16 JUDGE DIPPELL: Go ahead.

17 MR. CLIZER: I believe it should be 204.

18 JUDGE DIPPELL: It is 204. What --

19 MR. LOWERY: It is unless you marked that
20 other one for identification. I don't know. Did you
21 not?

22 MR. CLIZER: I did not.

23 JUDGE DIPPELL: I did not.

24 MR. LOWERY: Okay. Thank you.

25 JUDGE DIPPELL: We agreed that it was the

1 same as the page on your previous exhibit.

2 MR. LOWERY: Thank you, Your Honor. I
3 wasn't for sure.

4 JUDGE DIPPELL: Okay. So Exhibit 204 is
5 Forklift Classifications from the United States
6 Department of Labor. We'll call it that. This really
7 is more information about forklifts than I ever
8 thought I would need to know regulating public
9 utilities.

10 (Exhibit 204 was marked for
11 identification.)

12 BY MR. CLIZER:

13 **Q. Dr. Marke, I believe in answering Staff's**
14 **questions you mentioned you had reviewed some more**
15 **information. Is this the information that you**
16 **reviewed?**

17 A. Yes, it is.

18 MR. CLIZER: Go ahead and offer this
19 exhibit.

20 MR. LOWERY: Well, I don't think any
21 foundation's been laid as to what relevance it has to
22 the case or -- and it may -- or what Commissioner --
23 what -- what cross-examination question it's tied to.
24 So I'm not exactly sure that it's prime to be offered
25 quite yet.

1 MR. CLIZER: Fair enough. Let me add
2 some more.

3 BY MR. CLIZER:

4 Q. As I was asking you before, you were
5 asked some questions by Staff about the ability of a
6 company to add new forklifts and you basically stated
7 there was not a binary option. What was your basis
8 for that?

9 A. It's not just electric or non-electric.
10 There's many variations. And this -- this illustrates
11 it just right off the bat. You have three different
12 types, Class I -- more than that. Sorry. You have
13 11 different types of Class I forklifts which would be
14 operational. You have 10 different types of Class
15 III -- wait, I take that back. I'm looking at this
16 wrong.

17 You have four different types of Class I,
18 you have eight different types of Class II, many
19 different types of Class III. You have one Class IV
20 and one Class V.

21 As we read the tariff, the application
22 moving it forward, we're saying Class I, Class II.
23 Obviously some of those models are only going to be
24 appropriate in certain scenarios. A lot of that just
25 has to do with the size of that warehouse and how it's

1 being utilized and how much weight it's being pulled.
2 So there are opportunities.

3 I would look just at -- at this of gaming
4 it, of being able to go ahead and claim that you
5 induced further adoption when the other adoption was
6 no other adoption. There wasn't a suitable propane or
7 diesel option that they could have chosen.

8 **Q. And this exhibit before you is part of**
9 **what you relied on to reach your conclusion in**
10 **response to Staff's cross?**

11 A. Yeah. I mean the other thing I did --
12 and I just got online and started -- I asked myself
13 what would I do if I was a manufacturer that was
14 looking to buy a forklift? So I -- I looked at the
15 trade journals, I looked at a white paper by NITCO and
16 it was ten questions you need to ask before you buy a
17 forklift. So, you know, this is all research that I
18 do in just about every case. I mean, you try to do
19 your due diligence and -- and -- and see if it makes
20 sense.

21 And for this, amongst other reasons,
22 that's why I found the program flawed. I -- I know a
23 lot more about forklifts than I ever thought I would
24 too, so I --

25 MR. CLIZER: I renew my offer of the

1 exhibit.

2 MR. LOWERY: No objection.

3 JUDGE DIPPELL: Seeing no objection to
4 the offer of Exhibit Number 204, which I have titled
5 Forklift Classifications from the US Department of
6 Labor, I will enter it into the record.

7 (Exhibit 204 was received into evidence.)

8 BY MR. CLIZER:

9 Q. I think I have just one last question.
10 Very early on Staff kind of asked you whether or not
11 this was a -- asked you a question that involved a
12 term "speculative value added service." Just -- could
13 you provide a simple definition for that just so the
14 record makes clear what you mean?

15 A. So value added service --

16 MR. LOWERY: I'm going to object that
17 it's been asked and answered. That's the exact
18 question the Staff asked him and he gave a
19 definition. It's cumulative and it's been asked and
20 answered.

21 MR. CLIZER: I do not believe Staff asked
22 him what it meant. I believe Staff asked him whether
23 or not his testimony claimed that it was a speculative
24 added service. And I would ask that there be just a
25 definition.

1 JUDGE DIPPELL: I'm going to allow your
2 question. I believe it was a slightly different
3 question.

4 THE WITNESS: What do you need for safe
5 and reliable service? That's a value added service.
6 Having electricity, being able to use your lights,
7 being able to heat your home with an electric space
8 heater or cool your home with an air conditioner.
9 These are -- these are value added services. Nobody
10 can test that. That's why we have a natural -- that's
11 why we have this. This regulation as a proxy for the
12 market.

13 Speculative added value services is this
14 new frontier, and it's a gray area. And it falls into
15 areas like electric vehicle charging stations. Is
16 that the domain of the natural monopoly? Should that
17 be a venture for the free market?

18 Right now we can -- we can say -- and the
19 numbers bear this out -- that very, very few people
20 actually have electric vehicles today. Is it -- to
21 the extent that utilities encroach on that market,
22 that's going to inhibit additional entries from
23 wanting to move forward and add -- add investment into
24 it.

25 So the speculative part is just that; it

1 may or may not come to fruition. We -- we don't know
2 whether or not it -- it's going to work. And there's
3 an inherent risk when we talk about markets like that.
4 When you have a risky product, they're rewarded. If
5 you -- if you've got money to invest, you do that.
6 Natural monopolies on -- contrastly, you expect them
7 to be around. They're safer investments. There's --
8 there's a reason for that.

9 So Lawrence Berkeley National Labs has
10 spoke at length about this. There's a white paper
11 that -- that came out on -- on value added services.
12 It was sort of a three-part perspective. They looked
13 at the consumer advocate perspective, they looked at
14 the --

15 MR. LOWERY: Your Honor, I'm going to
16 object as -- this answer has been completely
17 non-responsive to the question that was asked. He was
18 asked for a definition. He gave the definition and
19 now he's peppering the record with all kinds of policy
20 statements about his point of view.

21 JUDGE DIPPELL: I will direct the witness
22 to please just answer the question. I think -- I
23 think you answered the question --

24 THE WITNESS: Okay.

25 JUDGE DIPPELL: -- with regard to the

1 value added.

2 Go ahead, Mister -- did you have another
3 question?

4 MR. CLIZER: Oh, no. No more further
5 questions. Thank you, Your Honor.

6 JUDGE DIPPELL: All right. We did have
7 just a couple of questions from Commissioner Kenney
8 during that regarding the total number of shipments of
9 forklifts. Would there be any further redirect about
10 that issue only?

11 MR. CLIZER: I --

12 MR. LOWERY: No, Your Honor. I don't
13 know any more about the source of those shipments than
14 Dr. Marke does.

15 JUDGE DIPPELL: Okay.

16 COMMISSIONER KENNEY: They can still
17 argue it though.

18 JUDGE DIPPELL: Seeing that then, I
19 believe that concludes Dr. Marke's testimony and you
20 may step down.

21 THE WITNESS: Thank you.

22 MR. CLIZER: Thank you, Your Honor.

23 Your Honor --

24 JUDE DIPPELL: Yes, sir.

25 MR. CLIZER: -- I would note that it's

1 approximately 10:30 by my watch and I believe we have
2 to break at 11:00. Did you -- were you planning to do
3 Staff witnesses or --

4 JUDGE DIPPELL: Well, I was about to ask
5 you all about your -- I'm assuming there is
6 cross-examination of Staff witnesses.

7 MR. CLIZER: There is.

8 MR. LOWERY: There is.

9 JUDGE DIPPELL: All right. Well, in that
10 case, since we do have agenda at 11:00 and I was
11 planning to break by 10:45, is there -- are there any
12 of the Staff preliminaries for -- the first witness we
13 have is Byron Murray. Is there any of the Staff
14 preliminaries for Mr. Murray that we can get out of
15 the way in 15 minutes or is the preference to go ahead
16 and break now?

17 MS. MERS: I mean, I'm --

18 MR. LOWERY: I don't care. If she wants
19 to put him on and get the testimony admitted, I don't
20 think we'll be done by 10:45 with cross.

21 JUDGE DIPPELL: Okay. Well, let's go
22 ahead and have Mr. Murray come up. We'll just get his
23 testimony admitted and then we'll break after that.
24 We'll save cross for after agenda.

25 (Witness sworn.)

1 JUDGE DIPPELL: Thank you.

2 You can go ahead then, Ms. Mers.

3 BYRON MURRAY, being first duly sworn, testified as
4 follows:

5 DIRECT EXAMINATION BY MS. MERS:

6 Q. Will you please state and spell your name
7 for the record?

8 A. Byron Murray, B-y-r-o-n M-u-r-r-a-y.

9 Q. And by whom are you employed and in what
10 capacity?

11 A. Public Service Commission. I'm a
12 regulatory economist there.

13 Q. And are you the same Byron Murray who
14 caused to be prepared certain testimonies that have
15 been marked as Staff Exhibit 102 and -- which is your
16 Rebuttal Testimony, and Staff Exhibit 106, which is
17 your Surrebuttal Testimony?

18 A. Yes.

19 Q. And do you have any changes or
20 corrections to your testimony?

21 A. No.

22 Q. Is your testimony true and correct to the
23 best of your belief and knowledge?

24 A. It is.

25 Q. And if I asked you the same questions

1 **today, would you give the same answers?**

2 A. Yes.

3 MS. MERS: I'd like to at this point
4 offer Staff Exhibit 102 and 106.

5 JUDGE DIPPELL: Would there be any
6 objection to Exhibits 102 or 106?

7 MR. LOWERY: No objection.

8 JUDGE DIPPELL: In that case, I will
9 admit Exhibit 102, which is the Rebuttal Testimony of
10 Byron Murray, and Exhibit 106, which is the
11 Surrebuttal Testimony of Byron Murray.

12 (Exhibits 102 and 106 were received into
13 evidence.)

14 JUDGE DIPPELL: And then let me just ask,
15 which Staff witness is sponsoring the Staff report
16 that's been marked as Exhibit 100?

17 MS. MERS: That will be Staff witness
18 Sarah Lange.

19 JUDGE DIPPELL: All right. Well, I
20 believe then we'll save cross-examination for after
21 agenda. And I'm not sure how long agenda is going to
22 last, but --

23 COMMISSIONER KENNEY: I'd say about 30 to
24 40 minutes. We've got ten -- ten items, so nothing
25 controversy and one closed case -- or closed case

1 di scussi on. Maybe 30, 35 mi nutes.

2 JUDGE DIPPELL: Okay. Let's plan to
3 return at -- let's -- well, I want to give the
4 Commissioners time to have some -- a lunch break so --

5 COMMISSIONER KENNEY: I'd say 12:45 or
6 1:00 if you want to give them 45 minutes for lunch.

7 JUDGE DIPPELL: Let's plan to return at
8 12:45. Let's go ahead and go off the record.

9 (A recess was taken.)

10 JUDGE DIPPELL: All right. We're back on
11 the record after our lunch break and the agenda break.
12 And Mr. Murray has just come back up to the stand. So
13 I think we are ready for cross-exami nation.

14 MR. LOWERY: Your Honor, before we do
15 that, we do have copies of Exhi bi t 13.

16 JUDGE DIPPELL: Oh, okay. I'll let you
17 go ahead and pass those out.

18 (Exhi bi t 13 was marked for
19 i denti fi cati on.)

20 JUDGE DIPPELL: Okay. Is there any
21 cross-exami nation for Mr. Murray by Office of Publi c
22 Counsel ?

23 MR. CLIZER: No, Your Honor.

24 JUDGE DIPPELL: Charge Poi nt?

25 MR. COMLEY: No questi ons.

1 JUDGE DIPPELL: Renew Missouri?

2 MR. OPITZ: No, thank you, Judge.

3 JUDGE DIPPELL: Ameren?

4 MR. LOWERY: Yes, Your Honor. Thank you.

5 CROSS-EXAMINATION BY MR. LOWERY:

6 Q Good afternoon, Mr. Murray.

7 A. Good afternoon.

8 Q. I assume that you have a copy of both of
9 your testimonies with you; is that true?

10 A. That is correct.

11 Q. And do you have a copy of your deposition
12 transcript?

13 A. I do have that as well.

14 Q. Okay. Do you have a copy of the Business
15 Solutions tariff, by any chance?

16 A. Yes, I do.

17 Q. Well, you've anticipated everything I was
18 going to make sure you had then.

19 Your testimony mentions the VW trust,
20 does it not?

21 A. Yes, it does.

22 Q. And -- and I think a suggestion that you
23 are making by pointing to the VW trust is that VW
24 funds might be available to fund some of the
25 electrification measures proposed in a way that might

1 reduce -- might eliminate or might reduce the need for
2 the Ameren Missouri programs. That was essentially
3 the point you were making by pointing to the VW funds.
4 **Right?**

5 A. Correct.

6 MR. LOWERY: May I approach, Your Honor?

7 JUDGE DIPPELL: Yes.

8 BY MR. LOWERY:

9 Q. Mr. Murray, I'm going to hand you a
10 document that I believe was Exhibit 2 in your
11 deposition, ask you to identify that, please.

12 A. This is the Missouri -- excuse me, the
13 Missouri Beneficiary Mitigation Plan from DNR.

14 Q. So this is the draft DNR plan that has
15 been submitted by DNR to the VW trust reflecting DNR's
16 current plan for how the VW trust funds would be
17 spent. **Right?**

18 A. That is correct.

19 Q. Now, this plan has not yet been approved
20 by the VW trust. **Correct?**

21 A. That is correct.

22 Q. **Over --**

23 A. Excuse me. Excuse me. The plan?

24 Q. **Yes.**

25 A. Is approved.

1 **Q. Not by the VW trust yet.**

2 A. The plan is approved by the VW trust for
3 DNR to administer it.

4 **Q. The plan's been submitted to the VW**
5 **trust, but the trust hasn't given its official**
6 **approval yet; isn't that true?**

7 A. On the EV Collaborative's plans or
8 application?

9 **Q. On this plan that I just handed you that**
10 **you just identified. Has the VW trust signed off on**
11 **this plan yet, the trust itself?**

12 A. As far as I'm aware, they have allocated
13 that money to Missouri, so the plan is in effect.

14 **Q. Would you take a look at your deposition,**
15 **please, at page 42, lines 9 to 11?**

16 A. Nine to 11?

17 **Q. Yes.**

18 A. Go ahead.

19 **Q. And I want you to confirm that I asked**
20 **you the following questions, you gave the following**
21 **answers during your deposition. "Question: And is**
22 **it -- and is it your understanding that this plan has**
23 **been submitted to the trustee of the VW trust to make**
24 **sure it complies with all of the terms and so on and**
25 **has to be approved eventually by the VW trust?**

1 **"Answer: That's correct.**

2 **"And it hasn't been approved as far as**
3 **you know, is that right, by the VW trust?"**

4 **And your answer was: "Not that I am**
5 **aware of."**

6 **Did I read that accurately?**

7 A. You did read that accurately.

8 **Q. Now, your Rebuttal Testimony at page 4,**
9 **it reproduces a table from the DNR plan that you**
10 **identified a minute ago, does it not?**

11 A. Which testimony?

12 **Q. Rebuttal Testimony, page 4.**

13 A. Okay. What line?

14 **Q. Well, can you look at your Rebuttal**
15 **Testimony, page 4? Is there a table there?**

16 A. Yes, I see it.

17 **Q. Is that the same table that appears on**
18 **page 1 of the VW -- the DNR VW trust -- or excuse me,**
19 **I'll identify it exactly -- the Missouri's Beneficiary**
20 **Mitigation Plan that was issued by DNR? Is that the**
21 **same table?**

22 A. That is correct.

23 **Q. Now, that table has categories. It has**
24 **eight different categories and there are dollar**
25 **amounts associated with those categories; is that**

1 right?

2 A. That is correct.

3 Q. And one of those categories is category
4 six, airport and cargo equipment; is that right?

5 A. Correct.

6 Q. And DNR's current plan is to allocate
7 2 million dollars of the 41 million to airport and
8 cargo equipment; is that right?

9 A. That is correct.

10 Q. Is it possible that none of the 2 million
11 dollars actually ends up being available for cargo and
12 airport equipment because the VW plan from DNR
13 provides that if more money is needed for categories
14 one to three, that monies from categories four to
15 eight may be shifted up to categories one to three?

16 A. That is possible.

17 Q. The planned EV money in category eight of
18 the VW plan, which is also shown in that table on --
19 in your Rebuttal Testimony, those dollars could also
20 be shifted to category one to three, could they not?

21 A. That is possible.

22 Q. You indicated that you have the Business
23 Solutions tariff that was filed in this case with you;
24 is that correct?

25 A. Yes, I do.

1 **Q. Can you please take a look at Sheet**
2 **Number 166.1?**

3 A. I am there.

4 **Q. And you see the measure table on that**
5 **sheet?**

6 A. Yes. On the next page, 166.1.

7 **Q. You see the measure table and**
8 **particularly the description of the forklift measure?**

9 A. Under eligible meas-- measures and
10 incentives?

11 **Q. Correct.**

12 A. Yes.

13 **Q. Under the description for forklifts**
14 **there's no capacity limitation listed, is there?**

15 A. I don't see a limitation listed.

16 **Q. Under the VW plan, the Missouri's**
17 **Beneficiary Mitigation Plan that DNR has submitted to**
18 **VW, in order to qualify for VW funds for a forklift,**
19 **assuming they end up being available, the forklift has**
20 **to have a capacity of 8,000 pounds or more; isn't that**
21 **right?**

22 A. That is correct.

23 **Q. By the way, do you know how -- over what**
24 **period of time the VW funds are going to be spent?**

25 A. I understand the funds can be available

1 as soon as June of 2-- 2019.

2 **Q. Over what period of time? Is it -- it's**
3 **a ten-year plan, isn't it?**

4 A. The mitigation plan?

5 **Q. Yes.**

6 A. That is correct.

7 **Q. So the funds presumably could be spent**
8 **over a ten-year period; isn't that right?**

9 A. That is correct.

10 **Q. Do you know the difference between the**
11 **various classes of forklifts that are -- exist or out**
12 **there in the market?**

13 A. I'm not an expert on forklifts.

14 **Q. Let me hand you what has been admitted**
15 **into evidence as Exhibit 204.**

16 A. Thank you.

17 **Q. You've heard of the Occupational Safety**
18 **and Health Administration, have you not?**

19 A. I have.

20 **Q. If OSHA -- OSHA for short. Right?**
21 **You've heard that acronym?**

22 A. Yes.

23 **Q. If OSHA indicates that there are various**
24 **classes of forklifts and depicts what those forklifts**
25 **are, would you -- would you assume that that's a**

1 **credible, reliable source of information about**
2 **forklifts?**

3 A. Yes.

4 **Q. So would you agree that all of the**
5 **forklifts shown in the box that's labeled Class I and**
6 **the box that's labeled Class II on Exhibit 204, all of**
7 **those forklifts could receive incentives under the**
8 **proposed Business Solutions plan? Would you agree**
9 **with that?**

10 A. I would agree with that.

11 MR. LOWERY: Your Honor, I need to get
12 another exhibit marked. It would be -- Ms. Tatro is
13 going to help me out.

14 JUDGE DIPPELL: Exhibit 1-- I'm sorry,
15 I'm looking at Staff.

16 MR. CLIZER: I have 14.

17 MS. TATRO: Yeah, 14.

18 JUDGE DIPPELL: Exhibit 14.

19 (Exhibit 14 was marked for
20 identification.)

21 BY MR. LOWERY:

22 **Q. Mr. Murray, I've handed you what's been**
23 **marked for identification as Exhibit 14. Would you**
24 **agree that this is a screenshot from Toyota's website**
25 **of various forklifts that Toyota offers?**

1 A. It appears to be. It says Toyota on it.

2 Q. Now, looking back at Exhibit 204, you see
3 the Class I electric forklifts are electric forklifts
4 that are ridden by the rider? I see that people
5 either sit on them or they can stand on the back and
6 guide them. Do you agree with that?

7 A. That appears to be the case.

8 Q. Would you agree that all of the six
9 categories on Exhibit 14 all are Class I or II
10 forklifts? They're of the type shown on the -- on
11 Exhibit 204 as Class I or II forklifts?

12 A. Could you repeat that?

13 Q. Would you agree that the six
14 categories -- the six pictures depicted on Exhibit 14
15 all are -- fit within the types of forklifts that are
16 identified by OSHA as being a Class I or Class II
17 forklift on --

18 MR. CLIZER: I'm going to object to this.
19 He's already stated that he's not an expert on
20 forklifts. I understand that we're looking and
21 comparing pictures, but just comparing pictures
22 doesn't mean that they fit within a category.

23 MR. LOWERY: He can -- he can indicate
24 how much knowledge he does or doesn't have.

25 JUDGE DIPPELL: Is this leading to

1 something, Mr. Lowery?

2 MR. LOWERY: Yes, it is.

3 JUDGE DIPPELL: I'm going to --

4 MR. LOWERY: It's -- it -- it deals -- it
5 deals with the limitation of the availability of VW
6 funds and the capacities.

7 JUDGE DIPPELL: I'm going to allow him to
8 answer if he knows the answer, but it will definitely
9 go toward the weight of the evidence in consideration.

10 THE WITNESS: What's the question again,
11 sir?

12 BY MR. LOWERY:

13 Q Would you agree, looking at the types of
14 forklifts that are shown as being Class I and Class II
15 on Exhibit 204 of the OSHA printout that you indicated
16 you thought would be reliable source of information,
17 would you agree that the six categories of forklifts
18 shown in Exhibit 14, the Toyota screenshot, are all
19 Class I and II forklifts?

20 A. I do not know.

21 Q. You don't know. All right. Would you
22 agree that another difference between the availability
23 of VW funds and the use of incentives under the
24 proposed Business Solutions program is that under the
25 Business Solutions program, a user can expand its

1 electric equipment fleet, but VW funds can only be
2 used to replace a piece of equipment that actually
3 gets scrapped?

4 A. The difference in the two programs from
5 VW and what Ameren is offering is the question?

6 Q. Yes.

7 A. Yes, that is correct.

8 Q. You can expand -- Ameren's money can be
9 used to expand -- expand the electric fleet. VW's
10 money can only be used to replace a piece of equipment
11 that gets scrapped. Right?

12 A. Correct.

13 Q. Let's shift gears just a little bit.
14 Take a look at your Rebuttal Testimony, page 5. And
15 I'm looking particularly at lines 3 and 4. You
16 expressed a concern about there being no limit on the
17 amount of incentives that could be spent on a single
18 measure. Correct?

19 A. That is correct.

20 Q. According to the Company's analysis,
21 every single measure has a RIM test result of at least
22 1.6. Do you agree?

23 A. That particular RIM test you're referring
24 to, which particular table are you taking that from?
25 One of those tables does not include the cost of the

1 administration of the program. So these numbers would
2 be wrong, in my opinion, and not really providing an
3 adequate or correct or -- the information would not be
4 accurate if it did not include the incentives and the
5 actual expenses of the program.

6 **Q. Are you telling me that you don't know**
7 **whether or not every program has a RIM test result of**
8 **1.6?**

9 A. I'm saying that the --

10 **Q. Well, can you answer? Are you telling me**
11 **you do not know, or do you know?**

12 A. The table states 1.6 or higher. Is that
13 the question?

14 **Q. Do you know whether or not every one of**
15 **the measures in Ameren Missouri's Business Solution**
16 **program has a RIM test result of 1.6? Do you know or**
17 **do you not know?**

18 A. I do know that one table shows those
19 numbers without those administrative costs included.

20 **Q. You have verified that the administrative**
21 **costs are not included in those numbers or you don't**
22 **know whether they're included or not?**

23 A. I have verified.

24 **Q. And what table are you referring to?**

25 A. If you give me a second, I'll pull that

1 up. I believe it's in Mr. Pickles' testimony.

2 Forgive me. There's a lot of paperwork here.

3 **Q. Well, you indicated that you verified it**
4 **and that you know the table you're talking about, so**
5 **take your time.**

6 A. Thank you.

7 Okay, sir. Forgive me for taking so
8 long.

9 **Q. That's okay.**

10 A. Page 15 of Direct Testimony from
11 Mr. Pickles.

12 **Q. Page 15 of his Direct Testimony. Okay.**

13 A. Footnote --

14 **Q. Let me catch up with you.**

15 A. Sure.

16 JUDGE DIPPELL: Mr. Murray, you might
17 pull your microphone back down a little bit.

18 THE WITNESS: Okay. Thank you.
19 Appreciate that.

20 JUDGE DIPPELL: Thanks.

21 BY MR. LOWERY:

22 **Q. Okay. You're talking about -- okay. I'm**
23 **there.**

24 A. Okay. Page 15 at the bottom it says --
25 if you'll allow me to read Footnote Number 7, For the

1 purpose of Table 2, purpose -- purposes of Table 2, no
2 program costs or incentives are assumed and a 1.0 net
3 to gross ratio is assumed. The overall program cost
4 effectiveness results presented later in testimony.

5 So this table does show the RIM test
6 above 1.6, but as I stated it, does not include the
7 cost of the program or the incentives.

8 **Q. You didn't read the entire footnote, did**
9 **you? The entire footnote says, The overall program**
10 **cost effectiveness results presented later in this**
11 **testimony include these items --**

12 A. Yeah. I didn't say --

13 **Q. -- correct.**

14 A. -- the last three words. Sorry.

15 **Q. In other words, im-- include problem**
16 **costs or incentives; isn't that right? That's what**
17 **he's saying?**

18 A. That's what I said.

19 MR. LOWERY: Your Honor, bear with me
20 just a moment if you don't mind.

21 JUDGE DIPPELL: That's fine. Just if you
22 start questioning him again, please use your mic, so.

23 BY MR. LOWERY:

24 **Q So all -- I apologize.**

25 **What you're saying is Table 2 doesn't**

1 include -- as you understand it, doesn't include the
2 program costs in-- and incentives. Right?

3 A. Correct.

4 Q. You don't know whether or not there are
5 calculations that do show that all the measures are
6 in -- are -- have a RIM of above 1 if you include the
7 program costs or incentives?

8 A. What do you mean by I don't know?

9 Q. You don't know whether there is other
10 information in Mr. Pickles' testimony or in his report
11 that would show that including the program costs and
12 incentives, each of the measures is effective. You
13 don't know one way or the other. Correct? You're
14 just pointing to Table 2?

15 A. I'm referring to Table 2.

16 Q. Now, if the Company can implement a cost
17 effective load building program, in other words, one
18 that has a RIM test result of more than one, there's
19 no reason why it wouldn't do so; isn't that true?

20 A. I can't think of a reason why the Company
21 wouldn't.

22 Q. Let's talk about -- I want to switch
23 gears on you, talk about the Make Ready comments that
24 you had about the EV corridor program. And I'm
25 particularly looking at page 11, lines 1 to 4 of your

1 **Rebuttal Testimony. And I'll give you a second to get**
2 **there.**

3 A. Thank you. What page again, sir?

4 Q. **Page 11, line -- lines 1 to 4 of your**
5 **Rebuttal.**

6 A. Page 11, lines?

7 Q. **One to four is what I'm going to ask you**
8 **about.**

9 A. Go right ahead.

10 Q. **Now, there you say that the Company's**
11 **proposed EV program appears to cover costs that are,**
12 **quote, outside of what the Commission had**
13 **contemplated, end quote, for the Make Ready model.**
14 **Right?**

15 A. That is correct.

16 Q. **Now, while Staff may have submitted**
17 **reports or provided information about what it thinks**
18 **the definition of Make Ready is or what it thinks it**
19 **ought to be, you can't point me to a single instance**
20 **where this Commission as a body has voted to issue an**
21 **order or to adopt a rule that defines what Make Ready**
22 **is, can you?**

23 A. Yes, I can. The Make Ready case was
24 delineated and pretty well explained by Commissioner
25 Hall during the ER-2016 -- I think it was ER-16--

1 2016-0285 case.

2 **Q. Mr. Murray, I want to make sure before**
3 **you answer this question further, that -- that you're**
4 **understanding my question. Is there -- you're telling**
5 **me there's an order of the Commission where three of**
6 **the five Commissioners or more issued an order that**
7 **said, Make Ready means A, B, C? Is that what you're**
8 **telling me? Or are you telling me that Commissioner**
9 **Hall may have had some questions or comments in a**
10 **particular case about what he might think Make Ready**
11 **means?**

12 **A. Specifically as you stated, the second**
13 **part, correct.**

14 **Q. Just Commissioner Hall's comments.**
15 **Right?**

16 **A. Correct.**

17 **Q. The Commission has not -- has not adopted**
18 **a rule that says, Make Ready means A, B, C, has it?**

19 **A. By way of the workshop that was held on**
20 **electric vehicle charging stations, we've -- we've**
21 **discussed Make Ready many times, that it means up to**
22 **the pedestal.**

23 **Q. Can I get an answer to my question?**

24 **A. What's the --**

25 **Q. Has the Commission, in a rulemaking,**

1 issued a rule that defines Make Ready, voted on by the
2 full Commission?

3 A. No. There were comments by --

4 Q. The -- the answer to my question is no.
5 Thank you.

6 Has the Commission issued some kind of
7 other order voted upon by the full Commission that
8 defines Make Ready to be A, B, C or whatever it may
9 be?

10 A. No.

11 Q. Isn't it fair to say that in order to
12 make the statement that you made at page 11, lines 1
13 to 4 of your Rebuttal Testimony, to make that
14 statement accurate, what it should have said is that
15 the program contemplates costs outside of what the
16 Staff contemplated would fit within the term of Make
17 Ready?

18 A. That would be fair.

19 Q. Also in your Rebuttal Testimony, page 3,
20 lines 8 to 9, you indicate that the Staff finds that
21 the Business Solution program is in direct competition
22 with energy sources provided by other
23 Commission-regulated utilities. Do you remember
24 saying that?

25 A. That is correct.

1 Q. And the reason the Staff has found that
2 from its perspective is Staff's belief that it could
3 have an effect on Spire's CNG program. Right?

4 A. That is correct.

5 Q. And when you refer to Spire in that
6 context, you're referring to Spire Missouri. Correct?

7 A. Correct.

8 Q. The former Laclède Gas Company?

9 A. Correct.

10 Q. And I guess it's actually the former
11 Missouri Gas Energy now. Correct?

12 A. (Witness nodded head.)

13 Q. In other words, the regulated entities
14 that are regulated in their natural gas service by
15 this Commission. Right?

16 A. That is correct.

17 Q. There are other unregulated Spire
18 entities. You're aware of that. Correct?

19 A. I -- I would agree if you say that's the
20 case.

21 Q. Now, when you say the Spire CNG program,
22 what you're referring to are sales of natural gas by
23 Spire Missouri to other persons or entities that, for
24 example, own a CNG station. Right?

25 A. Correct.

1 **Q. Spire Missouri doesn't sell CNG to**
2 **end-users as far as you know; isn't that right?**

3 A. Spire allows, through their tariff,
4 through the compression of natural gas for the purpose
5 of using in -- in vehicles.

6 **Q. That wasn't my question. Does Spire**
7 **Missouri sell CNG to folks that have CNG equipment? I**
8 **understand Spire sells methane --**

9 A. Okay.

10 **Q. -- to a CNG station owner who may**
11 **compress it and turn around and resell it. But Spire**
12 **Missouri doesn't sell CNG, does it?**

13 A. Not Compressed Natural Gas.

14 **Q. And when I say CNG, you understand that**
15 **that's an acronym for Compressed Natural Gas. Right?**

16 A. Correct.

17 **Q. In making the statement that the Business**
18 **Solution program could have an impact on what you**
19 **referred to as Spire's CNG program, you had in mind**
20 **Spire's tariff sheets by which it sells natural gas**
21 **to, for example, a CNG station owner. Right?**

22 A. That is correct.

23 MR. LOWERY: I need to get another
24 exhibit marked, Your Honor. I believe it's 15.

25 JUDGE DIPPELL: 15.

1 MR. CLIZER: Your Honor, while that's
2 being done, I just want to make sure I didn't miss it.
3 Did 14 -- was 14 offered?

4 JUDGE DIPPELL: No.
5 (Exhibit 15 was marked for
6 identification.)

7 BY MR. LOWERY:

8 Q I've handed you what's been marked for
9 identification as Exhibit 15. This is the Spire
10 Missouri East tariff that provides for the sale of
11 natural gas to, for example, a CNG station owner who's
12 going to then take that gas and compress it. Correct?

13 A. That is correct.

14 Q. The sale of CNG by that, in my example,
15 CNG station owner, that sale to, say, the example --
16 say, for example, to someone that has a CNG fueled
17 bus, that sale is not regulated by the Commission;
18 isn't that right?

19 A. It is regulated by way of this actual
20 tariff here.

21 Q. Listen to my question carefully. When
22 the CNG station owner compresses the gas and then
23 sells the CNG to, for example, the owner of a bus
24 that's fueled by CNG, the sale of the CNG to the bus
25 owner is not regulated by this Commission, is it?

1 A. That's the purpose of putting it in the
2 tariff is that --

3 **Q. Is it regulated by the Commission --**

4 A. Yes.

5 **Q. -- or not?**

6 A. As I understand it, yes.

7 **Q. So if I own a CNG station and I compress**
8 **the gas and I want to sell it to the bus owner for a**
9 **hundred dollars per -- I don't know how you -- what**
10 **measuring unit you use for CNG -- for 100 dollars, am**
11 **I free to do that?**

12 A. I understand this tariff allows a company
13 to compress the natural gas for the purpose of
14 vehicular use.

15 **Q. But that wasn't my question. Am I free,**
16 **in my example, to sell the CNG to the bus owner for a**
17 **hundred dollars?**

18 A. I believe that by way of the rate that's
19 stated here, you're restricted on what you can sell it
20 for.

21 **Q. You believe that the CNG station owner is**
22 **price restricted on what it can sell the CNG to the**
23 **bus owner for --**

24 A. If I'm --

25 **Q. -- by this tariff?**

1 A. If I'm understanding correctly, it says
2 here that for the purpose of any end -- service of any
3 end gas other than compression of natural gas for
4 vehi cul ar -- vehi cul ar use.

5 **Q. So you agreed with me a minute ago that**
6 **the sale of CNG is not regulated by the Commission,**
7 **di dn' t you?**

8 A. I -- if I'm -- I'm understanding you
9 correctly, it is regulated by the Commission.

10 **Q. Well, turn to your deposition again,**
11 **Mr. Murray, if you would.**

12 A. What page?

13 **Q. Page 30.**

14 A. I'm there.

15 **Q. Line 22 to page 31, line 3. And I want**
16 **you to confirm that I asked you the following**
17 **questions and you and you gave the following answers.**

18 A. Go right ahead.

19 **Q. Question: And in the sale of the**
20 **compressed natural gas, an example you and I were**
21 **talking about before where you and I may have a**
22 **Compressed Natur-- Natural Gas business and we're**
23 **selling Compressed Natural Gas to a forklift user,**
24 **that business isn't regulated by the Commission.**
25 **Right?**

1 **And your answer was: That is correct.**

2 **Did I read that correctly?**

3 A. You did that read that correctly.

4 **Q. The sale of gasoline, propane and diesel**
5 **is not regulated by this Commission, is it?**

6 A. No, it is not.

7 **Q. Now, I want you to assume for a minute --**
8 **and I think based on Mr. Pickles' testimony, it's not**
9 **a good assumption, but I want you to assume for**
10 **purposes of my question that a customer in Ameren**
11 **Missouri service territory owns a CNG-fueled forklift**
12 **and is looking to replace it. Are you with me so far?**

13 A. I am.

14 **Q. If that person replaces the CNG-fueled**
15 **forklift with an electric forklift, can that person**
16 **get an incentive under the proposed Business Solution**
17 **program?**

18 A. The scenario one more time, please.

19 **Q. The person has today a CNG-fueled**
20 **forklift. Let's say Warehouse XYZ has a forklift and**
21 **it's fueled by CNG. Are you with me?**

22 A. I am.

23 **Q. And Warehouse XYZ is looking to buy a new**
24 **forklift. If Warehouse XYZ buys a new electric**
25 **forklift, is Warehouse XYZ eligible for an incentive**

1 under the proposed Business Solutions program?

2 A. No.

3 Q. So if the incentives under the Business
4 Solutions program are only being provided to customers
5 who are replacing a gasoline, diesel or
6 propane-powered piece of equipment, the program can't
7 be in direct competition with CNG-fueled equipment,
8 can it?

9 A. Because the Company provides --

10 Q. That was a yes or no question. Can it be
11 in competition or not?

12 A. Yes.

13 Q. Turn to your deposition again, page 31.

14 A. I'm there.

15 Q. Lines 4 to 11. Confirm that I asked you
16 these questions and you gave this -- I guess it's two
17 questions and two answers.

18 "Question: And so if the incentive under
19 the Charge Ahead Business Solutions program are only
20 being provided to customers who are replacing a gas,
21 diesel or propane forklift in my example, then there
22 isn't any direct competition to CNG-fueled forklifts,
23 is there?

24 "Answer: As it's been stated, correct.

25 "Question: Did I say that correctly?

1 **"Answer: The way you stated that sounds**
2 **right."**

3 **Did I read that accurately?**

4 A. You read it correctly.

5 **Q. Turn to page 31. It's on page 31. Let's**
6 **look at lines 13 to 17.**

7 **"Question: At best, there is some kind**
8 **of indirect competition between the Charge Ahead**
9 **Business Solutions program and the regulated natural**
10 **gas business; isn't that true? Indirect at best?**

11 **"Answer: I would agree that it would be**
12 **indirect."**

13 **Did I read that correctly?**

14 A. You did.

15 **Q. I've just got one last question I think**
16 **for you, Mr. Murray. Staff seems to have a great deal**
17 **of concern about Spire's natural gas business. I find**
18 **it odd that Staff has so much concern about Spire's**
19 **natural gas business when Spire's a party to this case**
20 **and didn't bother to file testimony and didn't fi--**
21 **bother to show up for this hearing to express any**
22 **concerns itself. Don't you?**

23 MS. MERS: Objection. Is there a
24 question there or is that just testimony from --

25 MR. LOWERY: I said don't you find it

1 odd?

2 THE WITNESS: I don't define --

3 MR. LOWERY: I'm sorry. You can rule on
4 her objection.

5 THE WITNESS: Okay.

6 JUDGE DIPPELL: I'll -- I will allow him
7 to answer. I will overrule the objection.

8 Go ahead.

9 THE WITNESS: Do I find it strange?

10 BY MR. LOWERY:

11 **Q. Do you find it odd that Staff's**
12 **expressing all this concern about competition with**
13 **Spire, but Spire is a party to this case and didn't**
14 **express any concern itself through testimony and**
15 **didn't show up at this hearing to express any concern?**
16 **Isn't that odd?**

17 A. I don't know what Spire's reasoning is,
18 so I can't say that's odd.

19 **Q. Fair enough. Thank you, Mr. Murray.**

20 A. You're welcome.

21 JUDGE DIPPELL: Are there any questions
22 for Mr. Murray from the Bench? Seeing none, we will
23 go onto redirect. Any redirect from --

24 MR. CLIZER: Your Honor, sorry. Real
25 quick before that. I was just -- again, I might have

1 missed it. Has 14 and 15 been offered?

2 JUDGE DIPPELL: They were not offered

3 MR. LOWERY: I apologize, Your Honor. I
4 do want to offer 15.

5 JUDGE DIPPELL: Okay. 15 was the --

6 MR. LOWERY: Spi re Missouri --

7 JUDGE DIPPELL: -- Spi re Missouri East
8 Tari ff Sheet Number 9.

9 MR. LOWERY: That's correct.

10 JUDGE DIPPELL: Would there be any
11 objecti on to Exhi bi t 15?

12 Seeing none, then I will admit that into
13 the record. Thank you.

14 (Exhi bi t 15 was received into evidence.)

15 MR. LOWERY: And I won't offer 14. He
16 di dn' t know anything about it.

17 JUDGE DIPPELL: I appreciate that.

18 So then we will move onto redirect. Is
19 there redirect by Staff?

20 REDIRECT EXAMINATION BY MS. MERS:

21 Q. Mr. Lowery asked you a question about the
22 Table 2 of Mr. Pickles' testimony and then he pointed
23 to the footnote that said that later on in the
24 testimony, there were results that included the
25 administrative costs.

1 **Do you know, do those overall results**
2 **that are presented later, are they an overview of**
3 **program cost effectiveness that includes specific**
4 **numbers with assumed levels of measures that have been**
5 **installed for each part of the program?**

6 A. Can you repeat that one more time,
7 please?

8 Q. Yeah. I can try to. Are the overall
9 results presented later, do you know are those an
10 overall measure of the program's cost effectiveness?
11 And that overall cost effectiveness does that include
12 specific numbers that assume 12 forklifts have been
13 installed, two ground loaders have been installed to
14 get to those results?

15 A. Yes. Absolutely. There are a lot of
16 assumptions in that testimony, in that table their
17 results.

18 Q. Mr. Lowery asked you about VW mitigation.
19 If DNR has reviewed we'll say -- not approved, going
20 with his contention -- but reviewed the program and
21 has allocated the 6 million dollars, what do you think
22 the likelihood is that they would not go forward with
23 that plan?

24 MR. LOWERY: I'm going to object. That
25 calls for speculation.

1 JUDGE DIPPELL: If you would like to
2 rephrase that to ask him his opinion.

3 BY MS. MERS:

4 Q. Yes. What is your opinion on the
5 likelihood of that not going forward?

6 A. It's very likely I believe, in my
7 opinion. The -- in fact, the aspect of this that's
8 not being discussed here is the Electrify America
9 portion of this. They've actually put fast chargers
10 on Interstate 44, three in -- one in Sullivan, one in
11 Mount Vernon and one in Lebanon. The Company has also
12 placed one in Kansas City, one in St. Louis, but
13 they're not in operation yet. The rest of them will
14 be on I-70.

15 Q. Mr. Lowery was questioning you about what
16 the Commission has or has not done in reference to
17 Make Ready models. Do you recall if there was a Make
18 Ready model tariff adopted in the most recent KCPL and
19 GMO rate cases?

20 A. I believe there was.

21 Q. Okay. And that -- voted on and approved
22 by the Commission, to clarify?

23 A. Yes.

24 Q. Okay. Mr. Lowery also walked you through
25 some examples relating to the competition aspect. I'm

1 going to walk you through some hypotheticals. If
2 there's a CNG seller that sells less CNG, do you think
3 then Spire would sell less gas to the CNG seller for
4 compression?

5 A. If the -- if these incentives are in
6 place, they would probably sell less natural gas as a
7 result, if that is -- if I'm understanding you
8 correctly.

9 Q. And if Spire sells gas -- we'll take a
10 customer who compresses the gas themselves for use in
11 their equipment. If Spire sells gas to that user and
12 they would buy instead of an additional CNG unit, an
13 addio-- an electric forklift, do you think that Spire
14 sells less gas in that instance?

15 A. Yes.

16 Q. And just to clarify, Mr. Lowery was
17 pointing out that this -- you can't replace a CNG
18 forklift with an electric forklift under the tariff,
19 but could a CNG forklift owner expand to add a new
20 electric forklift?

21 A. That would be an option.

22 Q. And if you could give us one second. I
23 apologize.

24 For my final question, you were asked
25 about your reference to the decision in ER-2016-0285.

1 **And if I could approach with the Report and Order to**
2 **refresh your memory.**

3 A. Please. May I read this?

4 JUDGE DIPPELL: Let's let your attorney
5 ask the questions.

6 BY MS. MERS:

7 **Q. I was -- I was just going to ask after**
8 **you've read it, if you'd like to do it out loud, I --**
9 **no.**

10 A. Oh, okay. I wasn't sure how you wanted
11 me to do that, so I was just asking.

12 **Q. No. I'll just -- I'll have you read it**
13 **to yourself and --**

14 A. Okay.

15 **Q. -- we can have the --**

16 MS. MERS: Can we take official notice of
17 the Report and Order in ER-2016-0285?

18 MR. LOWERY: Well, I'd -- I'd like to see
19 it if we're going to take official notice so I at
20 least know what we're taking official notice of.

21 MS. MERS: Sure.

22 MR. LOWERY: Or he can read it out loud,
23 which might be more expeditious.

24 MS. MERS: Okay. Yeah.

25 BY MS. MERS:

1 **Q. Well, we can -- do you mind reading that**
2 **out loud then?**

3 A. Sure. KCP&L -- KCPL may include in
4 rate-base any equipment such as distribution lines,
5 transformers, and meters necessary to provide electric
6 service to an owner of an EV charging station, whether
7 or not that owner is an affiliated -- is affiliated
8 with KCP&L. Also, the Commission orders KCP&L to
9 accumulate data regarding the appropriate electric
10 rate to charge owners of EV charging stations and
11 provide this data during the next general rate case.

12 Did you want me to go further?

13 **Q. That is fine. Is that, first of all, a**
14 **Commission order -- Report and Order?**

15 A. That is Report and Order from
16 ER-2016-0285, page 46.

17 **Q. And is that, what you just read,**
18 **consistent with what you have been defining as a Make**
19 **Ready definition?**

20 A. Staff has used this specific as our
21 standard for what defines Make Ready.

22 **Q. Okay. I have no further questions.**
23 **Thank you.**

24 A. You're welcome.

25 JUDGE DIPPELL: Thank you. I think that

1 concludes your testimony, Mr. Murray, and you may step
2 down.

3 THE WITNESS: Thank you.

4 JUDGE DIPPELL: If you'd like to go ahead
5 and call your next witness.

6 MS. MERS: Staff calls Sarah Lange to the
7 stand.

8 (Witness sworn.)

9 JUDGE DIPPELL: Thank you.

10 SARAH LANGE, being first duly sworn, testified as
11 follows:

12 DIRECT EXAMINATION BY MS. MERS:

13 **Q. Can you please state and spell your name**
14 **for the record?**

15 A. Sarah LK Lange, S-a-r-a-h L.K., Lange,
16 L-a-n-g-e.

17 **Q. And by whom are you employed and in what**
18 **capacity?**

19 A. Staff of the Missouri Public Service
20 Commission. I'm a regulatory economist three in the
21 Tariff and Rate Design Department.

22 **Q. And are you the same Sarah Lange who**
23 **caused to be prepared certain testimonies which have**
24 **been marked as Staff Exhibit 100, which is the Staff**
25 **report -- of course I've lost my exhibit sheet --**

1 **Staff Exhibit 101, which is the Rebuttal Testimony;**
2 **and Staff Exhibit 105, which I think has a public and**
3 **confidential version, which is your Surrebuttal**
4 **Testimony?**

5 A. I will trust you on the exhibit numbers,
6 but yes, I have prepared --

7 Q. I hope you can.

8 A. -- those documents.

9 Q. **And do you have any changes or**
10 **corrections to your testimony?**

11 A. I do not.

12 Q. **Okay. And is your testimony true and**
13 **correct to the best of your belief and knowledge?**

14 A. Yes.

15 Q. **And if I asked you those questions today,**
16 **would you give the same answers?**

17 A. I would.

18 MS. MERS: At this time I'd like to offer
19 the Staff report, Exhibit 100; the Rebuttal Testimony
20 of Sarah Lange, which was Exhibit 101; and the
21 Surrebuttal in both public and confidential forms of
22 Ms. Sarah Lange, which was Exhibit 106.

23 JUDGE DIPPELL: 105.

24 MS. MERS: 105. I apologize.

25 JUDGE DIPPELL: Would there be any

1 objection to exhibits -- let me just take them in
2 order. Exhibit 100?

3 Seeing none, I will admit that.

4 (Exhibit 100 was received into evidence.)

5 JUDGE DIPPELL: Is there any objection to
6 Exhibit 101?

7 I will admit that.

8 (Exhibit 101 was received into evidence.)

9 JUDGE DIPPELL: Is there any objection to
10 Exhibit 105, both public and confidential?

11 And that will be admitted as well.

12 (Exhibit 105 was received into evidence.)

13 MS. MERS: I will tender the witness for
14 cross.

15 JUDGE DIPPELL: Is there
16 cross-examination by Public Counsel?

17 MR. CLIZER: Yes, Your Honor.

18 CROSS-EXAMINATION BY MR. CLIZER:

19 **Q. Good afternoon, Ms. Lange.**

20 **A. Good afternoon.**

21 **Q. To begin with, Ameren makes use of what**
22 **they term a RIM test in their case study. Correct?**

23 **A. Yes.**

24 **Q. Can you just provide a simple explanation**
25 **of what a RIM test is?**

1 A. At its simplest level, you're just
2 looking at -- at what are the costs and what are the
3 benefits and above one -- you know, one to -- a cost
4 of one to a benefit of five is great. A cost of one
5 to a benefit of .5 is bad.

6 **Q. Did Staff take any issue with Ameren's**
7 **RIM test?**

8 A. Well, I -- I chiefly looked at the EV
9 program, the four sub-programs within the EV tariff.
10 And Staff takes issue with the lack of a RIM test. We
11 asked Ameren early on for sub-program results. We've
12 never seen those. We asked Ameren early on for an
13 explanation of how they get from the concept of
14 259 dollars per vehicle equals, you know, 11 million
15 dollar budget equals 7,500 vehicles and so they've --
16 they've claimed that that's a RIM test.

17 I don't see the connection between what
18 they're claiming as the costs and what they're
19 claiming as the benefits. There's -- there's no
20 direction from point A to point B within any of their
21 testimony, work papers or materials they've provided
22 us for those sub-programs. I'm not sure if I answered
23 your question.

24 **Q. You did. Although did you say Staff**
25 **did -- I'm sorry, Ameren did not provide a RIM number**

1 **at all or --**

2 A. Ameren has -- has -- Steve Wills in his
3 Direct Testimony lays out a case that as long as the
4 11 million dollars generates 7,500 vehicles, that the
5 program would break even. Based on some corrections
6 he makes to his testimony in his Surrebuttal, he
7 revises that to I think around 8,500, 8,900 vehicles
8 are necessary to break even.

9 And he says that if a certain adoption
10 scenario happens, a RIM of greater than one -- the
11 number might be 1.19, but I don't recall for certain,
12 that that RIM will be achieved, but -- but he
13 doesn't -- to me, that is not a reasonable test
14 because you're not -- there's no relationship between
15 the programs they propose and the benefits that they
16 claim.

17 **Q. I would assume that these RIM analyses**
18 **require several different factors to be considered.**
19 **Can you provide a short list, for example, of what**
20 **factors are necessary to go into a RIM analysis?**

21 A. Well, this is where Ameren's case I think
22 really breaks down and where just it needs to be
23 developed. So you got to look at the cost. Okay. So
24 what are the potential costs? The potential costs are
25 upgrades that are needed to a local distribution

1 system. That might be very low in one area. There --
2 there might be no upgrades needed in a given area.
3 There might be substation improvements needed in
4 another area.

5 How do we know what level of distribution
6 system costs are needed? That depends on three
7 things. That depends on the speed of the charging,
8 the system capacity at that area as total, and the
9 system utilization that is current and projected at
10 that area. Those -- those are three things that we
11 need to know just on the cost side that vary
12 tremendously. They will not be the same at any two
13 points in the distribution system.

14 And so that's where we need information
15 about where is it likely that these will be deployed
16 so that we can accurately -- or -- or I shouldn't say
17 accurately. So that we cannot unreasonably estimate
18 what kind of costs are going to be associated with it.
19 That's something Ameren has been unable or unwilling
20 to provide us and so it's hard to get past that first
21 step.

22 Then when you get to benefits, that
23 matters a lot how the program is designed. There's a
24 lot of talk in -- in my Rebuttal Testimony that I
25 think Mr. Willis sort of -- well, he puts an

1 interpretation on it in his Surrebuttal. And I think
2 that we can look at some of these sub-programs and as
3 Ameren has said they will run them without the
4 stricture of a tariff guiding how they will be run,
5 that we cannot reasonably expect any additional
6 vehicles to be enabled other than the one that charges
7 at that port.

8 So to Staff's view, if we want to
9 optimize the benefits, we need to either keep costs
10 low or keep benefits high. If we know that for
11 5.5 million dollars worth of a budget of 11 million
12 dollars it is unlikely that a port will create more
13 than one EV, that that's really the best case
14 scenario, it's hard to picture that those -- for that
15 5.5 million dollars, that a RIM above one would ever
16 be achieved.

17 Are there ways to get there? Probably.
18 That's information we'd like to work with the Company
19 and other stakeholders to develop.

20 **Q. I think you mentioned at one point that**
21 **the speed of the charger was a factor. Ameren**
22 **identified what speed of charging it was anticipating**
23 **in its RIM analysis. Correct?**

24 A. Again, this is where there's a severe
25 disconnect. Mr. Willis' analysis looks at charging

1 speed of 6.6 kW. That is a charging speed. The
2 tariff as proposed allows any charging speed up to
3 20 kW for level 2 charging.

4 I would agree that a year or two ago it's
5 unlikely that you're going to see a lot of chargers
6 above 6.6 kW. I think Mr. Ellis is happy to sell ch--
7 customers chargers as fast as those customers are
8 willing to pay for them.

9 So I mean if you start talking about
10 adding, you know, -- well, I guess to step back, their
11 own response to DR 18 indicated just how tricky it
12 gets once you start locating, you know, these 20 kW
13 chargers. That's before we even get to the HVDC and
14 the potential to go from 50 to 500 kW of charging in
15 the near term.

16 You know, just looking at the level 2
17 charging, if you are trying to target a
18 multi-family -- you know, like a condo-type situation
19 where someone has their assigned parking spot, if that
20 were limited to 6.6 kW charging, that probably isn't
21 too bad for the system.

22 Depending on local conditions, that
23 probably sets up a scenario where someone charging
24 there is going to be putting a low level of demand on
25 the system for a longer period of time. Couple that

1 with an incentive to get them to shift it to later in
2 the evening and you might have a not bad program.

3 But if you're giving someone an incentive
4 to pay for a 20 kW charger and they're plugging it in
5 the moment they get home from work, that's going to
6 exacerbate your system peak and it's also going to put
7 demands on your local distribution system that may
8 require significant upgrades. And that's before you
9 even get into, you know, looking at -- at other
10 reasons that you might want to shift that load around.

11 **Q. There are a couple terms there. I**
12 **believe peak I heard and at capacity. Are you and**
13 **Company in agreement with how those terms are being**
14 **used?**

15 A. That's -- that's one thing that probably
16 has been a very --

17 MS. TATRO: Can I object? I'm -- I
18 make -- we make this objection all the time and it is
19 never upheld, but I am going to make it anyway. This
20 is incredibly friendly cross, eliciting new testimony.
21 It is not cross-examination, you know, examining
22 issues. It's providing an opportunity for additional
23 testimony.

24 MR. COMLEY: I would join in that
25 objection.

1 JUDGE DIPPELL: And I will overrule that
2 objection. Mainly because that question was do you --
3 does Staff and the Company have an issue -- are they
4 at issue? And the answer to that should be yes or a
5 no or I don't know and not a big, long restatement of
6 testimony.

7 So I will ask the court reporter to read
8 back that question.

9 THE COURT REPORTER: "Question: There
10 are a couple terms there. I believe peak I heard and
11 at capacity. Are you and Company in agreement with
12 how those terms are being used?"

13 JUDGE DIPPELL: And the witness can
14 answer.

15 THE WITNESS: Can I ask for a
16 clarification of whether that is in the context of how
17 the Company has used those terms during this hearing
18 or how those terms have been used in testimony?

19 BY MR. CLIZER:

20 Q. I would -- I see no reason to ask both.
21 If I've -- both.

22 A. Generally in testimony, not to go too --
23 into too much detail, but I mean, Staff has -- has
24 asked the Company what they mean by peak in DRs and
25 otherwise and we haven't necessarily gotten from the

1 Company what they mean by peak.

2 MS. TATRO: I'm going to object.

3 JUDGE DIPPELL: So you don't know.

4 MS. TATRO: The answer then is I don't
5 know.

6 JUDGE DIPPELL: Okay. I'll let the
7 witness testify. Thank you, Ms. Tatro.

8 If you don't know the answer, you can --
9 you can say you don't know.

10 THE WITNESS: From what the Company is
11 now testifying, I believe they mean peak means one
12 hour of the year. That, to me, is not the only
13 relevant consideration of peak. And I think that that
14 distinction is an important distinction that the
15 Company is missing.

16 And similarly with capacity, it appears
17 that they are referring to capacity to mean generation
18 capacity at the hour of peak. When I use the term
19 "capacity" and as I've tried to clarify in the
20 testimony, capacity involves generation capacity,
21 transmission capacity, distribution capacity. And
22 those things all matter at various hours throughout
23 the year.

24 BY MR. CLIZER:

25 Q. You mentioned previously with regard to

1 **RIM tests that a RIM above one was a good thing.**

2 **Correct?**

3 A. It means that the benefits outweigh the
4 costs.

5 **Q. Is it possible for a load building**
6 **program to be detrimental then if the RIM is above**
7 **one?**

8 A. It depends on the rate treatment. So
9 yes, you could get to a rate case and the revenues get
10 allocated to one class and the costs get allocated to
11 another, so it depends. It depends.

12 **Q. Did the Company rely on a study by -- or**
13 **regarding Indianapolis Power and Light? Are you aware**
14 **of such a study?**

15 A. They -- they have indicated yes, that --
16 that they relied on -- at least in part on that study.

17 **Q. Do you agree with Company's conclusions**
18 **regarding that study?**

19 A. This goes to the question of what peak
20 means. I think that Indianapolis Power and Light,
21 through their easily Googable -- Googleable report
22 that the DOE study relied on indicated what they meant
23 by peak and it was not a single hour.

24 And so I'm -- I am -- I am confused by
25 how Mr. Willis uses the study from IPL electric vehicle

1 program year three 2013 report to conclude that
2 20 percent charging at -- I think he says six o'clock
3 in the evening is -- is when charging will occur.

4 **Q. Thank you. Are you familiar with the**
5 **exhibit that has been previously introduced into**
6 **evidence as Number 9? And I am showing you this just**
7 **because it's difficult to explain.**

8 A. Yes. I saw it yesterday.

9 **Q. Do you have a copy of it in front of you?**

10 A. I do not.

11 MR. CLIZER: With the Court's permission,
12 may I lend her my copy?

13 JUDGE DIPPELL: Yes. If you want to -- I
14 was just going to ask if you would show it to her
15 counsel first, but I can see from here it's a copy of
16 Exhibit 9, so.

17 MS. MERS: Okay.

18 MR. CLIZER: I will note for the record
19 that I have marked a corner with the Number 9 just to
20 indicate Exhibit and that is the only difference.

21 BY MR. CLIZER:

22 **Q. If you would like to confirm that?**

23 A. I -- I don't know exactly how -- how -- I
24 forget if it was Mr. Opitz or Mr. Wills who introduced
25 this yesterday as their product, but I -- I accept

1 that this is Exhibit 9.

2 **Q. The blue line that we see on Exhibit 9,**
3 **that is according to the exhibit taken from the ICF**
4 **Residential Charge Study for Southern California**
5 **Edison Charge Ready Program Metering Study. Correct?**

6 A. That's what it says.

7 **Q. Do you agree that that is a good proxy**
8 **for load shapes in Ameren Missouri's service**
9 **territory?**

10 A. I don't think there's any reason to
11 expect it to be. It -- it may be, it may not be. I
12 don't know the year that this was derived from. I
13 don't know the speed of the charging that was used. I
14 do know that SoCal Edison has TOU incentive rates
15 where customers get rebates if they participate on TOU
16 rates.

17 So I -- and I mean the biggest thing to
18 me on this would be what is the -- what are the kW
19 charging that the chargers and the attendant vehicles
20 are capable of would -- would be my concern about
21 whether or not this is reasonable. I would expect
22 that absent a reason not to, when customers get home
23 about 5:30, six o'clock in the evening, they're going
24 to plug in their EVs for -- for residential charging.

25 **Q. Do you agree with the orange bar labeled**

1 **Implied Staff Charging Peak Demand Impact Per EV?**

2 A. You know, I really struggle with this
3 because I think the -- the intent of Staff's analyses
4 were not to say we know when people will charge. It
5 was to reflect that depending on the behaviors you
6 incent or discourage, people will charge at different
7 ways in different manners.

8 And so I -- I would agree that the -- the
9 summary numbers that were presented in my Rebuttal and
10 Surrebuttal Testimony as opposed to the more detailed
11 analysis contained in the Staff report, I -- I think
12 Mr. Willis probably accurately did math using a 6.6
13 charging level to -- to come up with that.

14 You know, I -- I don't agree that that
15 31 percent would be reflective if you look at the
16 19.2 or the up to 20 kW charging. That -- that isn't
17 31 percent. At that point it's 10 percent, which is
18 pretty consistent with their numbers.

19 **Q. In answer to a previous question I**
20 **believe with regard to this graph, you mentioned SoCal**
21 **Edison has time of use rates. Ameren Missouri does**
22 **not currently offer time of use rates. Correct?**

23 A. They do offer time of use rates. Their
24 peak hours are between -- their -- their summer months
25 I believe 2:00 to 7:00, something like that, maybe

1 4:00 to 7:00.

2 **Q. And those time of use rates are related**
3 **to EV charging?**

4 A. No. Those time of use rates are
5 available to those customers who are allowed to
6 participate in that program. I believe it's a 31 cent
7 to 8 cent pricing differential, but it's -- it's only
8 during summer months.

9 **Q. I'm finished with Exhibit 9. Thank you.**
10 **Were you here earlier or otherwise**
11 **observed the testimony given by Ameren's witness,**
12 **Mr. Justis?**

13 A. Generally, yes.

14 **Q. Mr. Justis -- or do you recall Mr. Justis**
15 **stating something to the effect that Staff and OPC had**
16 **failed to provide constructive criticism or other**
17 **feedback?**

18 A. I very much recall that, as I was shocked
19 by that.

20 **Q. Do you recall the technical conference**
21 **that Mr. Justis was referring to when he made those**
22 **comments?**

23 A. I am concerned that I recall nothing
24 similar to what Mr. Justis described. I do recall
25 that at a point during the first technical conference,

1 I asked where the Company was headed with their
2 presentation, what their intent was for technical
3 conferences.

4 Because approximately halfway through a
5 three-hour technical conference, we were on slide 4 or
6 5 of a 40-slide deck that contained less information
7 than the information contained in the Direct
8 Testimony.

9 **Q. So I take it you don't agree with**
10 **Mr. Justis's statement regarding the failure to**
11 **provide constructive criticism?**

12 A. Absolutely not. Neither at the first
13 technical conference nor at multiple interactions
14 between Staff and the Company and, to the best of my
15 recollection, OPC that occurred during this past
16 summer both in this case and -- and in, frankly,
17 opportunities that we took to -- to get in contact
18 with Mr. Willis in between formal meetings.

19 **Q. And just one last question. Staff is in**
20 **general support of OPC's performance metric -- well,**
21 **actually you know what? Let me -- let me take that**
22 **back, I should say. You know what? Never --**
23 **disregard that. I have no further questions.**

24 JUDGE DIPPELL: Thank you.

25 Is there cross-examination by

1 ChargePoint?

2 MR. COMLEY: I have none. Thank you.

3 JUDGE DIPPELL: Renew Missouri?

4 MR. OPITZ: No, thank you, Judge.

5 JUDGE DIPPELL: Ameren?

6 MS. TATRO: Thank you.

7 CROSS-EXAMINATION BY MS. TATRO:

8 Q. Good afternoon.

9 A. Good afternoon.

10 Q. Ms. Lange, I took your deposition last
11 week; is that right?

12 A. Sure did.

13 Q. Do you have a copy of it with you?

14 A. I believe I do. I do.

15 Q. Okay. Great. Hopefully we won't need
16 it.

17 So now in your Rebuttal you'd agree with
18 me you calculated the net margin per electric vehicle
19 using various scenarios and those scenarios varied by
20 different assumptions such as level of charging or the
21 number of ports. Is that a fair description?

22 A. I'm not sure that it is. If you could
23 give me a moment to find my testimony.

24 Okay. Could you restate that?

25 Q. Sure. You cal -- you calculated the net

1 **margin per electric vehicle under different scenarios?**

2 A. So what I presented in my Rebuttal
3 Testimony was an average across those scenarios.

4 **Q. Right. First you calculated the**
5 **scenarios so that then you could average them. Right?**

6 A. Those were presented in the report, yes.

7 **Q. Okay. All right. In the report instead**
8 **of Rebuttal. My error.**

9 **And in your Surrebuttal you again**
10 **calculated net margin this time using the even higher**
11 **charger speeds that were in the testimony of**
12 **ChargePoint; is that right?**

13 A. I updated those averages.

14 **Q. Based on the higher charging speeds in**
15 **the testimony from ChargePoint?**

16 A. Yes.

17 **Q. Okay. Did you base those scenarios on**
18 **any studies or empirical observations of actual EV**
19 **charging patterns?**

20 A. No.

21 **Q. Okay. In fact, isn't it true that you**
22 **didn't intend for your scenarios to be representative**
23 **of the way EV owners will charge their vehicles?**

24 A. Under any given set of circumstances, no.

25 **Q. And further, you do not have a**

1 **recommendation that any particular scenario is more**
2 **likely than any other particular -- particular**
3 **scenario. Correct?**

4 A. In the absence of a program to guide it
5 that way, that is correct.

6 **Q. Okay. So you're not saying to the**
7 **Commission that any one of your scenarios is most**
8 **likely to occur?**

9 A. No.

10 **Q. Okay. I have no further questions.**

11 JUDGE DIPPELL: Thank you.

12 Questions from the Commission?

13 Mr. Chairman?

14 CHAIRMAN SILVEY: Thank you. Yeah, I do
15 have a question.

16 QUESTIONS BY CHAIRMAN SILVEY:

17 **Q. Do you have your Rebuttal Testimony?**

18 A. Yes.

19 **Q. On page 3, starting on line 6.**

20 A. Yes.

21 **Q. Okay. I'm just going to read from that**
22 **and then ask you a question. You say -- actually**
23 **starting on line 7: Staff supports promulgation of A**
24 **reasonably designed Make Ready tariff to subsidize the**
25 **line extension costs associated with the installation**

1 of separately metered electric vehicle charging
2 facilities under specific circumstances.

3 In the alternative, if Ameren Missouri
4 can provide reasonable estimates of program costs
5 associated with specific measures within the Charge
6 Ahead EV program, Staff does not oppose creation of a
7 better designed program to optimize benefits for all
8 ratepayers at a given level of revenue requirement
9 impact.

10 Can you summarize for me what you mean by
11 that? What does your -- what's your conception of a
12 reasonably designed Make Ready tariff or better
13 designed program to optimize benefits?

14 A. So the Make Ready tariff is an easy one
15 to describe. That's what the Commission ordered us to
16 prepare essentially, to prepare a cost-benefit
17 analysis. And so that is fairly fully described in
18 the Staff report.

19 Essentially it is you identify a set of
20 circumstances -- and -- and an easy one here is, you
21 know, line extension. So if somebody's ten miles
22 from, you know, the nearest distribution line, you
23 wouldn't want to pay for nine and a half miles of
24 distribution line.

25 But that you -- you come up with a

1 reasonable set of easy to identify, easy to follow
2 parameters. And if those parameters are met, then
3 that customer who was trying to make that charger
4 installation doesn't have to pay a line extension
5 cost.

6 **Q. Okay.**

7 A. To the second one, you know, what -- what
8 is a better way to make this program?

9 **Q. Yes.**

10 A. We'd love to get there. We would like
11 input from Ameren Missouri about how they want this
12 program to operate so that -- you know, we're not in
13 the business of defining -- designing these programs.
14 We're in the business of making sure the tariffs do
15 exactly what the program is supposed to do. We don't
16 have those details to make the tariffs better. Give
17 us those details; me and a case of Mountain Dew will
18 get you a tariff in a couple of days.

19 **Q. But surely you have to have some concept,**
20 **some ideas. You wouldn't --**

21 A. Yeah.

22 **Q. I mean, I think your position is that you**
23 **would like to negotiate further on this, but you don't**
24 **just go into that with a blank slate. Like what --**
25 **what are -- what are some of the ideas that you would**

1 **like to pursue to make it a better designed program?**

2 A. Sure. Personally something that I think
3 would make sense to look at are -- are prioritizing
4 areas that have either low or no up front distribution
5 costs, you know. Not -- so where we're not having to
6 add a substation to -- to accommodate this charging
7 load.

8 Another big one are areas that are likely
9 to have port sharing. So that might be hospitals,
10 that might be employers that run three shifts, you
11 know, where one E-- where one port can reasonably be
12 expected to cause two or three EV purchases instead of
13 a dedicated port in a closed, private park condo
14 garage.

15 So -- so I mean those are certainly some
16 of the things we've looked at. There's some examples
17 of that in the infrastructure report and there were
18 some examples of that in the KCPL testimony which we
19 directed Ameren towards early on in this process.

20 **Q. Okay. Thank you.**

21 A. Thank you.

22 JUDGE DIPPELL: Any -- that's all the
23 Commission questions. Is there recross examination
24 based on the Chairman's questions from Public Counsel?

25 MR. CLIZER: There is.

1 RECCROSS-EXAMINATION BY MR. CLIZER:

2 Q. Ms. Lange, you were just asked a broad
3 strokes mechanism by which Ameren's proposed tariff
4 could be made better. Would you agree with that?

5 A. That was how I understood it.

6 Q. Would you -- in your opinion, would you
7 agree that the addition of a risk -- risk sharing
8 mechanism could potentially improve the tariff as
9 designed?

10 A. This is where Staff and Public Counsel
11 differ. I -- I think there -- there are two ways to
12 address this. From Staff's perspective, a narrowly
13 defined program with -- a narrowly defined program is
14 a reasonable way to deal with ratepayers' funds.

15 My understanding of OPC's perspective on
16 this -- and I guess you can correct me if I'm wrong in
17 the briefs -- is that if you give the Company this
18 risk sharing mechanism, then it's their prerogative to
19 optimize it. You know, we're coming at it from you
20 need the narrow tariff to ensure that the Company does
21 what they're supposed to, doesn't do what they're not
22 supposed to.

23 So I -- I think those are just two
24 fundamentally different approaches. Based on past
25 experience, I think Staff and Public Counsel could

1 find common ground on that, but sitting here today, I
2 don't know what that is.

3 **Q. Would you at least agree that the OPC**
4 **risk sharing -- in your opinion, the OPC's risk**
5 **sharing proposal is superior to Ameren's proposal as**
6 **currently drafted?**

7 A. That really gets into an accounting
8 question that I'd have to defer to Mr. Oligschlaeger
9 as to whether or not we're comfortable authorizing
10 that deferral. I do know that my boss,
11 Ms. Kliethermes, has -- has stated in testimony
12 that -- that she sees that there's some potential for
13 a way forward there, but I think accounting details
14 matter. And thankfully, those are someone else's
15 problem.

16 **Q. Thank you. No further questions.**

17 JUDGE DIPPELL: Any further
18 cross-examination from ChargePoint?

19 MR. COMLEY: No, thank you.

20 JUDGE DIPPELL: Renew Missouri?

21 MR. OPITZ: No, thank you, Judge.

22 JUDGE DIPPELL: Ameren?

23 MS. TATRO: None. Thank you.

24 JUDGE DIPPELL: Is there redirect?

25 MS. MERS: Yes.

1 REDIRECT EXAMINATION BY MS. MERS:

2 Q. Okay. So I believe that OPC asked you a
3 question regarding Ameren Missouri's Exhibit 9, which
4 illustrated one of your var-- variables calculating
5 net margins. And I believe that the proxy load shape
6 was a Southern California Edison. Do you recall that
7 question?

8 A. I do.

9 MS. MERS: Okay. If I could mark an
10 exhibit. Give myself a paper cut in the process.

11 THE WITNESS: Give that copy to the court
12 reporter.

13 MS. MERS: I was going to give it to you.

14 JUDGE DIPPELL: I have Staff Exhibit 114.

15 (Exhibit 114 was marked for
16 identification.)

17 BY MS. MERS:

18 Q. I believe you had referenced you had
19 reviewed these documents?

20 A. Yes.

21 Q. And can you just explain what this
22 document is?

23 A. So this is the Southern California
24 Edison -- the rebates that they offer for installation
25 of EVs or -- yeah, for -- if they elect to be on the

1 standard residential TOU, they receive a 500 dollar
2 rebate. If they elect to be on the TOU EV-1, they can
3 receive a rebate of up to 1,500 dollars.

4 **Q. So then this document is saying that to**
5 **be a part of that program, you have to be on a time of**
6 **use rate?**

7 A. Yes.

8 **Q. Okay.**

9 A. Well -- well, to -- I'm sorry. This
10 document is saying that to receive a rebate, you have
11 to be on a time of use rate. Customers could, and
12 certainly can in any electric territory to my
13 knowledge, go out and purchase an EV and not even tell
14 a utility company about it as long as they're not, you
15 know, melting their electric meter.

16 MS. MERS: Okay. I'd like to go ahead
17 and enter this exhibit.

18 JUDGE DIPPELL: Is there any way to get a
19 readable copy of this exhibit?

20 MS. MERS: Yes. We can -- we will find a
21 better, more eligible [sic] version and -- and get
22 that to you as soon as possible. I apologize.

23 JUDGE DIPPELL: I mean it's legible, it's
24 just very tiny.

25 MS. MERS: You just don't have your

1 magnifying glass with you. I understand.

2 JUDGE DIPPELL: Okay. So this document
3 is Southern California Edison's Charge Ready Home
4 Installation Rebate. Would there be any objection to
5 this Exhibit 114?

6 MS. TATRO: Yes. To the extent this
7 exhibit is being offered to show that there was a time
8 of use that existed during this study, there's no date
9 on it, we don't know when it became effective, we
10 don't even know if it was in place when the metered
11 study happened. So there's no foundation for it,
12 there's no relevance and it shouldn't be included in
13 the record.

14 JUDGE DIPPELL: Ms. Mers?

15 MS. MERS: I can lay a better foundation.

16 BY MS. MERS:

17 **Q. To your knowledge, was this in effect**
18 **during -- how does this time of use relate to the load**
19 **shape that was featured on that Exhibit 9?**

20 A. This -- this -- the SoCal Edison time of
21 use framework is an example of a narrowly tailored
22 utility program to deal with when EV loading hits the
23 system. I'm not certain when this program began.
24 I -- I see no reason to expect that -- sorry, let --
25 let me rephrase.

1 I know exactly as much about that load
2 shape as Mr. Willis does, which is -- is nothing. So
3 no, I -- I do not know if this program was in effect
4 when that load shape was created because I don't know
5 how archaic that load shape is relative to their
6 current load.

7 MS. TATRO: I think it's the same
8 objection.

9 JUDGE DIPPELL: Yeah, I'm not -- I -- I
10 don't see that the witness has testified as to that
11 she knows how this is connected to the previous --

12 MS. MERS: I want to -- my witness can
13 correct me if I'm wrong, but I think that her
14 contention was without knowing when the load shape
15 occurred, that it is reasonable to assume that this
16 tariff was in place to encourage and influence the
17 load -- load shape, especially if the load shape was
18 based on electric vehicles and this is a rebate for
19 electric vehicles, that it would have some influence
20 on the load shape. So it colors the exhibit that they
21 have also offered.

22 MS. TATRO: If I may respond. It was
23 actually Renew Missouri 9 and it was accepted and into
24 the record without objection.

25 But my objection, there's still no

1 foundation because we don't know if this tariff even
2 existed and the whole argument she just made proves my
3 point.

4 JUDGE DIPPELL: I'm -- I'm going to
5 sustain the objection and not going to enter Exhibit
6 114. For one thing, this doesn't look like a tariff
7 to me. This looks like website shots off of somebody
8 else's program. So I -- the witness is welcome to
9 testify as to what she knows about other states'
10 programs and we'll weigh the evidence at that point.

11 MS. MERS: Thank you.

12 BY MS. MERS.

13 **Q. I think in the vein of other states'**
14 **programs, OPC had also asked you about the IPL study.**
15 **How does the IPL study relate to your analysis in this**
16 **case?**

17 A. So I think the guidance that we can get
18 from the IPL study, as well as the concept that we see
19 in the SoCal Edison study -- or SoCal Edison program
20 of tying a rebate to a rate is -- is a good example
21 that we might look at for Ameren for a possible way
22 forward. I mean it's up to them whether they do that
23 or not. But when I look at the IPL report, I -- I do
24 see that -- let me get the quote correct here.

25 MS. TATRO: While she's looking, Your

1 Honor, I'm going to object as non-responsive. She
2 asked how it related to her testimony -- how the study
3 is in her testimony.

4 JUDGE DIPPELL: I will sustain your
5 objection, let the witness answer how it's related to
6 your testimony. Which I think she did. Am I correct?

7 THE WITNESS: I was mostly there, but
8 I'll accept your representation that I did.

9 BY MS. MERS:

10 Q. **And I guess to put a little bit more**
11 **color in the question I was asking, did you, when**
12 **coming up with your testimony, review this IPL study?**

13 A. I reviewed the IPL study in analyzing
14 Mr. Wills' testimony. It does not directly relate to
15 my testimony.

16 Q. **Is this cited in Mr. Wills' testimony?**

17 A. So he cites the DOE study that draws from
18 this study. And he said yesterday he had no knowledge
19 of this study, I believe.

20 Q. **Okay. But you -- your steps then were to**
21 **go to the DOE study and then find the foundation**
22 **source for that study?**

23 A. Correct.

24 MS. MERS: Okay. And then -- well, I'd
25 like to mark an exhibit.

1 JUDGE DIPPELL: Staff's next Exhibit
2 Number is 115.

3 (Exhibit 115 was marked for
4 identification.)

5 BY MS. MERS:

6 Q. Is what I've handed you a copy of the IPL
7 study that is referenced in the DOE study that is
8 referenced in Mr. Wills' testimony?

9 A. I believe so.

10 Q. Okay. And can you explain how the IPL
11 study related to your analysis of Mr. Wills'
12 testimony?

13 A. So looking at page 3, the project
14 objectives, frankly, seem identical to what Ameren has
15 laid out. They want to foster EV adoption by
16 installing public charging stations to reduce range
17 anxiety. They want to accommodate -- I'm sorry, they
18 want to gain further insight into the potential system
19 impact from the use of EVs.

20 What they do that Ameren doesn't do is to
21 discuss -- accommodate the use of EVs by offering time
22 of use rates to EV customers designed to promote
23 charging during off peak periods. And it goes into
24 some detail about the residential TOU rate that I
25 believe Mr. Wills received as an exhibit yesterday and

1 that he stated he didn't know whether or not was the
2 rate available to EV charging customers.

3 MS. MERS: Okay. I'd like to go ahead
4 and offer this exhibit.

5 JUDGE DIPPELL: Would there be any
6 objection to Exhibit 115, which is the Indianapolis
7 Power & Light Company, which we've been referring to
8 as IPL, Electric Vehicle Program Year 3, 2013 Report?

9 MS. TATRO: No.

10 JUDGE DIPPELL: Seeing none, I will admit
11 that.

12 (Exhibit 115 was received into evidence.)

13 BY MS. MERS:

14 **Q. Can you explain how time of use rates**
15 **make a difference in the load shape outcomes?**

16 A. There's -- there's two big things there.
17 So I guess going back to Mr. Byrne's statements when
18 we started yesterday about the idea that air
19 conditioning was -- was the EVs of the '50s. I think
20 he's largely right and I think that the load shapes we
21 see today are driven by that air conditioning and HVAC
22 load.

23 I can't help but wonder what those load
24 shapes would look like if TOU had been in place in the
25 '50s and '60s as those loads were building and

1 especially in those '90s when -- the '90s when those
2 loads really took off. And -- and that's where, you
3 know, the -- the question of what does peak really
4 mean comes into play.

5 You know, Ameren has a peak at ten
6 o'clock on a winter morning. It's not the system
7 peak. It's not what MISO looks at necessarily. But
8 it's definitely what Ameren's system distribution
9 level engineers are looking at when they wonder if
10 that transformer needs to be replaced or upgraded.

11 If we can incent those customers who
12 charge their vehicles through this program to charge
13 in times that it helps flatten the Ameren system load,
14 that's not a bad thing. You know, whether or not we
15 need to -- to guide how that load is shaped without a
16 subsidized program, that's a good question.

17 There's -- there's lots of public policy
18 and workshop questions we can have on that and I
19 believe we're obligated to have as we head into the
20 next Ameren rate case. But certainly if we're looking
21 at subsidized charging, it really makes me struggle
22 with why we would divorce that entirely from the
23 concept of time of use rates.

24 And, frankly, the adoption of time of use
25 rates undermines Mr. Will's margin assumptions that

1 underlie the whole program, but that's where we get
2 into a chicken and egg problem.

3 **Q. I believe OPC asked you a question about**
4 **Ameren's time use of rates. Do you recall?**

5 A. I do.

6 **Q. And you stated that Ameren does have time**
7 **of use rates?**

8 A. They have a residential program.

9 **Q. Can you explain that program?**

10 A. Since I was doing my best to recall the
11 numbers a while ago, I'll pull up their screenshot.
12 Their -- I find web pages on simple tariffs a little
13 easier to follow than the tariffs themselves.

14 Their -- their peak hours are 2:00 to
15 7:00 Monday to Friday during the summer months. And
16 then that rate is 31.5 cents per kWh. Their off peak
17 hours are 7:00 p.m. to 2:00 p.m. Monday to Friday, all
18 day on weekends. And that rate is \$7.87. And they --
19 they do not have a -- that on peak rate available in
20 the winter. It is summer only.

21 **Q. And what's the importance of those peak**
22 **hours in the context of what we've been looking at for**
23 **load shapes?**

24 A. So that's where it matters what we're
25 talking about when we talk about peak and when we talk

1 about capacity. So Ameren has primarily residential
2 distribution systems that -- that are pretty darn
3 close to full capacity as -- as Mr. Wills' testimony
4 will show with -- with room for reserve, you know,
5 during an average summer afternoon.

6 That may not be the summer afternoon that
7 goes into the MISO peak analysis, but that doesn't
8 mean it doesn't matter from a distribution level. And
9 by the same token, energy costs on a summer afternoon
10 are -- are going to be quite a bit higher than they're
11 going to be in the morning or in the evening or during
12 the fall.

13 So those are all things to take into
14 account, you know. It's not just when does Ameren
15 need to build generation. It's when does Ameren need
16 to improve transformers? When does Ameren need to,
17 you know, run a second circuit into a subdivision --
18 or feeder? I'm sorry. Those -- those are -- those
19 are things that just need to be taken into account.

20 So if in program design we give priority
21 to charger installations that don't cause system
22 impacts on the distribution level, that's a way to
23 address it. If in program design we look at, you
24 know, maybe incenting those installations that allow
25 for charging -- or that encourage the charging to

1 occur at a time that isn't the middle of the day or
2 the middle of the afternoon or first thing in the
3 evening, those are all things that we'd like Ameren's
4 input on how specifically that should be designed, but
5 that those are ways to address these -- these problems
6 before they start, so to speak.

7 **Q. And currently the tariff does not have**
8 **any of those requirements that they need to be on time**
9 **of use or --**

10 A. Absolutely not.

11 **Q. Okay. And I think you were also asked**
12 **about your concerns with the RIM test by OPC. And I**
13 **think their question related to assumptions and**
14 **relating to capacity, if I recall correctly. Did you**
15 **have any specific concerns about the capacity**
16 **assumptions?**

17 A. And this -- this boils down to what
18 chargers are we talking about? So if we're talking
19 about HVDC charging at between 50 kW and 500 kW, there
20 will be absolutely on almost any circuit -- if you're
21 talking about a bank of four -- or three or four 500
22 kW chargers, I cannot imagine that not straining or
23 requiring expansion of the local distribution
24 capacity.

25 It may or may not occur at a time that

1 requires additional capacity through MISO, but it is
2 hard to imagine a -- an area of the Ameren
3 distribution system that would not, you know, need
4 something to deal with that, much -- much as Mr. Ellis
5 I think indicated this morning.

6 So that analysis was not included in the
7 RIM test. You know, he was looking at what costs and
8 benefits are there for a 6.6 kW charger. He wasn't
9 looking at a 19 kW charger, he wasn't looking at a
10 50 kW charger. And when you start to look at those
11 levels, you -- you run into some areas pretty quickly,
12 you know, where the costs do not exceed the benefits.

13 So if, for example, in multi-family
14 charging we keep those chargers at a 6.6 kW level, is
15 it possible that we see at least not significant
16 negatives from that? Yeah, that could happen. But
17 if -- if you're having somebody come home at
18 five o'clock and plug in a 19 kW charger, the system's
19 going to notice that.

20 **Q. And the tariffs don't have any**
21 **limitations on what size chargers can be installed?**

22 A. No. And -- and they don't have any --
23 any direction -- I think one of the ideas that Ameren
24 threw out yesterday is that the -- the HVDC chargers
25 might be paired with a battery to reduce system

1 demand.

2 That's not in the tariff. It's possible
3 under the tariff, but there's nothing that makes it
4 happen. There's nothing that makes those chargers be
5 incorporated into a demand response program. Those
6 are all things that if they were in the tariff, would
7 reduce the costs and increase the benefits. They
8 could happen, but there's no reason to expect they
9 will happen.

10 **Q. And have you reviewed anything that gave**
11 **you specific concerns about actual lack of capacity in**
12 **Ameren's service territory?**

13 A. So on the distribution capacity level, I
14 think the document with Mr. Willis yesterday, the DR
15 18, I don't recall the exhibit number, you know, that
16 indicated, without getting into anything H-- in-- into
17 anything confidential, you know, the available
18 capacity on certain circuits. And the numbers are
19 what they are. Those are Ameren's estimates, not
20 mine.

21 **Q. Counsel for Ameren asked about your**
22 **scenarios regarding net margins. Would you consider**
23 **your analysis a sensitivity analysis?**

24 A. Yes. I mean also in the testimony I -- I
25 looked at just simple things like changing Mr. Willis'

1 mileage estimate, you know, the minimum in his work
2 sheet from a 40 down to a 30 and looking at the impact
3 that that caused.

4 I mean this -- potentially there are the
5 bones of a good program here. But we need the meat on
6 it. And those are the kind of analyses that need to
7 be run and -- and, you know, things that need to be
8 looked at is just looking at okay, what are the
9 charging patterns that are going to cause a lot of
10 costs? What are the charging patterns that are going
11 to, you know, create net revenues? Those are the
12 sorts of analysis that I tried to provide in the Staff
13 report.

14 **Q. And at the end of the day, even if we**
15 **disregard your scenarios and your analysis and we just**
16 **relied on Ameren's, do you believe the tariffs as**
17 **proposed would make those scenarios -- or assumptions**
18 **in Mr. Wills' testimony occur?**

19 A. As the tariffs are defined and as the
20 Company has indicated the program will be run, and --
21 and very particular to that, I'm referring to the
22 assumption that workplace charging will not involve
23 plug sharing and the fact that -- or the assumption
24 that tenant charging will not involve plug sharing, I
25 cannot find a way for the programs to be cost

1 effective unless you assume that the public area
2 charging to which they've devoted 1.1 million dollars
3 and no limitation on program costs within that, to --
4 to make everything break even, the public area
5 charging -- and I'm sorry, this is even assuming two
6 vehicles are enabled by each workplace and
7 multi-family charging port.

8 You would have to have somewhere around
9 41 vehicles enabled by each public area charging port
10 in order for the program to even break even. And
11 if -- if we can do that, then let's put more money in
12 public area charging.

13 **Q. I have no further questions. Thank you.**

14 JUDGE DIPPELL: Thank you. I think that
15 concludes your testimony, Ms. Lange, and you may step
16 down.

17 Let's go ahead and take a short break in
18 between these last couple witnesses and let's return
19 at 2:30, ten minutes.

20 (A recess was taken.)

21 JUDGE DIPPELL: Let's go ahead and go
22 back on the record. We're back on the record after
23 our afternoon break and Mr. Oligschlaeger has come to
24 the witness stand, so I'll go ahead and swear you in.

25 (Witness sworn.)

1 JUDGE DIPPELL: Thank you. You may go
2 ahead, Ms. Mers.

3 MARK OLIGSCHLAEGER, being first duly sworn, testified
4 as follows:

5 DIRECT EXAMINATION BY MS. MERS:

6 Q. Will you please state and spell your name
7 for the record?

8 A. My name is Mark L. Oligschlaeger. Last
9 name is spelled O-l-i-g-s-c-h-l-a-e-g-e-r.

10 Q. And by whom are you employed and in what
11 capacity?

12 A. I am employed by the Missouri Public
13 Service Commission as the manager of the Auditing
14 Department.

15 Q. And are you the same Mark Oligschlaeger
16 who caused to be prepared certain testimony that has
17 been marked as Staff Exhibit 103, the Rebuttal
18 Testimony of Mark Oligschlaeger?

19 A. I am.

20 Q. Do you have any changes or corrections to
21 your testimony?

22 A. I do not.

23 Q. Is your testimony true and correct to the
24 best of your belief and knowledge?

25 A. It is.

1 **Q. If I asked you those same questions**
2 **today, would you give the same answers?**

3 A. I would.

4 MS. MERS: At this time I'd like to offer
5 Exhibit 103 into -- the Rebuttal Testimony of Mark
6 Oligschlaeger into evidence.

7 JUDGE DIPPELL: Would there be any
8 objection to Exhibit 103?

9 MS. TATRO: No objection.

10 MS. MERS: All right. I would tender the
11 witness for cross.

12 JUDGE DIPPELL: And I will admit that
13 into evidence.

14 (Exhibit 103 was received into evidence.)

15 MS. MERS: I apologize.

16 JUDGE DIPPELL: It's fine.

17 Okay. So we're ready for
18 cross-examination. Is there any cross-examination by
19 OPC?

20 MR. CLIZER: No. Thank you, Judge.

21 JUDGE DIPPELL: Anything from Renew
22 Missouri?

23 MR. OPITZ: No, thank you, Judge.

24 JUDGE DIPPELL: Ameren?

25 MS. TATRO: Thank you.

1 CROSS-EXAMINATION BY MS. TATRO:

2 Q. Good afternoon.

3 A. Good afternoon.

4 Q. So Mr. Oligschlaeger, your testimony
5 addresses Accounting Authority Orders or AAOs.
6 Correct?

7 A. Among other items, yes.

8 Q. Uh-huh. You consider a tracker to be
9 different than an AAO. Correct?

10 A. To state it more exactly, a tracker is a
11 different kind of mechanism than the type of deferral
12 request normally made through AAO applications.

13 Q. Okay. Would you agree with me that AAOs
14 have to do with past events, like restoration after a
15 major storm?

16 A. Generally, yes.

17 Q. Okay. And trackers generally are
18 intended to deal with ongoing costs for which there is
19 some public policy interest in tracking the dollars?

20 A. I would agree with that.

21 Q. Okay. You would agree that Ameren
22 Missouri's request is more akin to a tracker than an
23 AAO?

24 A. It has aspects of both. I probably would
25 lean a bit towards the tracker side than the AAO

1 deferral aspect of it.

2 **Q. And you would agree that Staff's criteria**
3 **for a tracker is different than the criteria you put**
4 **in your testimony about an AAO?**

5 A. The criteria we have advocated specific
6 to trackers is not identical to the criteria I stated
7 in my testimony, which comes from prior Commission
8 orders.

9 **Q. Okay. And you'd agree with me that one**
10 **reason to have a tracker is because -- is for public**
11 **policy interests, because it's in the public interest**
12 **or to incent some type of action?**

13 A. That could be one rationale for a
14 tracker.

15 **Q. Okay. Do you have your Direct Testimony**
16 **with you?**

17 A. I do.

18 **Q. Turn to page 5.**

19 A. I'm there.

20 **Q. Okay. On line 12 your recommendation is**
21 **that the Commission use normal accounting?**

22 A. For Charge Ahead program costs, yes.

23 **Q. Okay. So that would mean that the costs**
24 **would be charged to expenses incurred. Right?**

25 A. Yes.

1 **Q. Okay. And in that situation the only way**
2 **for a cost to be included in the Company's revenue**
3 **requirement would be for the expense to show up in a**
4 **test year. Correct?**

5 A. A test year, update period or true-up
6 period, yes.

7 **Q. Okay. So I would like you to presume for**
8 **me a hypothetical. That an order for this case comes**
9 **out by February 21st, which I think is the effective**
10 **date of the tariffs. Then further presume it takes**
11 **the Company six months to stand the program up and to**
12 **get it going. Okay?**

13 A. Okay.

14 **Q. So I think that takes it until August.**
15 **Does that sound right?**

16 A. Yes.

17 **Q. And let's presume the Company files a**
18 **rate case in 2019. I would say traditionally the**
19 **Company files around June or July. Right?**

20 A. Okay. I'll agree with that.

21 **Q. So do you agree with me that in that**
22 **scenario, there won't be any costs related to Charge**
23 **Ahead in the test year?**

24 A. It is unlikely in the test year itself
25 that there would be those costs.

1 **Q. Because we're presuming the program**
2 **doesn't start till August?**

3 A. Correct.

4 **Q. Now, are all expenses updated in a**
5 **true-up?**

6 A. Typically not.

7 **Q. Okay. So assuming all of the revenues**
8 **and costs stay the same, Ameren Missouri will suffer**
9 **permanent loss of some portion of the program costs of**
10 **the new program. Correct?**

11 A. By its decision to incur cost in advance
12 of rate recovery?

13 **Q. By its decision to start a program.**

14 A. Yes.

15 **Q. Okay. So that's a yes, that there will**
16 **be a permanent loss?**

17 A. I'm sorry. I was --

18 **Q. I just wanted to make sure that we**
19 **weren't talking past each other.**

20 A. Sure. Theoretically that would be a
21 loss, yes.

22 **Q. Okay. Now using your traditional**
23 **accounting approach, would you agree with me there is**
24 **no way to obtain perfect symmetry so that the Company**
25 **could start a new program and also include all of the**

1 costs in the revenue requirement because of the
2 historical test year that Ameren -- that the State of
3 Missouri uses?

4 A. It would be highly unusual to have
5 perfect symmetry of that nature.

6 Q. Okay. So let's talk about another
7 hypothetical. I would like you to assume that the
8 Company spends a million dollars in one year on a
9 Commission-approved program and that million dollars
10 is an expense, not a capital expenditure. Okay? Got
11 that?

12 A. I -- I do.

13 Q. And assume the Company is not able to
14 recover those expenses for five years.

15 A. It does not seek a rate case for five
16 years.

17 Q. Okay. Then assume in year five the
18 Company's allowed to include that million dollars in
19 its revenue requirement. Okay?

20 A. Okay.

21 Q. Do you agree with me that the initial
22 million dollar expenditure is an expense that has to
23 be recorded on the Company's books in the year it was
24 incurred?

25 A. Absent other accounting authorization

1 from the Commission for regulatory accounting
2 purposes, I would agree with that.

3 **Q. Okay. And that's normal accounting**
4 **procedure?**

5 A. Yes.

6 **Q. And that would reduce the net income in**
7 **that year the expense is recorded. Correct?**

8 A. All other things being equal, yes.

9 **Q. Okay. Would you agree that the Company**
10 **is not able to record any revenues associated with the**
11 **future recovery until it actually bills that amount in**
12 **year five?**

13 A. Under most circumstances, that would be
14 true.

15 **Q. Okay. And that's a GAAP rule. Right?**

16 A. Yes.

17 **Q. And that's because there's not enough**
18 **certainty in regards to future recovery of the costs?**

19 A. That would be the general rule.

20 **Q. Okay. And would this scenario qualify**
21 **for revenue booking under -- well, let me ask a**
22 **different question.**

23 **Are you familiar with alternative revenue**
24 **programs of cap?**

25 A. Generally, yes.

1 **Q. Okay. Would this scenario qualify for**
2 **revenue booking under that program?**

3 A. Under the hypothetical you laid out, I
4 don't believe so.

5 **Q. Okay. And you know what GAAP stands for.**
6 **Right?**

7 A. Sure. Generally Accepted Accounting
8 Principles.

9 **Q. Okay. And you're familiar with those?**

10 A. In general, yes.

11 **Q. You're a CPA. Correct?**

12 A. I am.

13 **Q. Okay. Let's go back to your testimony,**
14 **page 6, line 18.**

15 A. I'm there.

16 **Q. Okay. And here you're discussing PISA,**
17 **something that came out of Senate Bill 564. And can**
18 **you tell me what PISA stands for?**

19 A. Plant In Service Accounting.

20 **Q. Okay. And you say, Utilities that elect**
21 **PISA will be able to delay rate cases. Right?**

22 A. I think it's a reasonable assumption that
23 utilities using PISA may not have to file for rate
24 relief as often as they did prior to access to PISA.

25 **Q. That's your opinion. Correct?**

1 A. That -- that's my opinion, yes.

2 Q. Okay. In developing that opinion, you
3 did not model the impact of PISA using, as an example,
4 some historical time period where you know the costs
5 for utilities so that you could determine how
6 regulatory lag is actually impacted, did you?

7 A. I did not.

8 Q. Okay. Do you agree that PISA allows
9 capture of 85 percent of qualifying plant depreciation
10 and return?

11 A. I do.

12 Q. So it does not capture 15 percent?

13 A. That is correct.

14 Q. Okay. So Ameren Missouri would still
15 experience some regulatory lag on the remaining
16 15 percent unless there was some other mechanism by
17 which it could recover those dollars?

18 A. It would still be some; much less than in
19 the pre-PISA period.

20 Q. And would you agree with me that not all
21 capital investment qual -- meets the definition of
22 qualifying plant?

23 A. I would agree.

24 Q. Okay. So if Ameren Missouri were to
25 construct a new natural gas generating plant, it could

1 **not get PISA on any of those dollars. Right?**

2 A. That's my understanding of the
3 legislation.

4 **Q. Okay. And in the best case scenario if**
5 **the Company built a new natural gas generating plant**
6 **and then filed a rate case to capture those costs,**
7 **there is at least five months of regulatory lag that**
8 **still exists. Correct?**

9 A. There could be. There has in the past
10 been accounting authorizations for companies to defer
11 the return in depreciation on major new capital
12 additions.

13 **Q. And that's special accounting that has to**
14 **be approved by the Commission. Right?**

15 A. Yes.

16 **Q. How many times do you think that's**
17 **happened?**

18 A. At least four or five times.

19 **Q. Okay. And how many years have you been**
20 **at the Commission?**

21 A. Since 1981.

22 **Q. It wouldn't be polite for me to say I was**
23 **in high school then. Right?**

24 MR. COMLEY: You better not.

25 MS. TATRO: Sorry.

1 BY MS. TATRO:

2 Q. Do you agree with me that PISA does not
3 address cost increases that occur in operation and
4 maintenance expenses?

5 A. It does not.

6 Q. Okay. Do you agree with me that PISA
7 sets up a regulatory asset that captures the
8 85 percent of depreciation and return that we
9 discussed earlier and it recover it over 20 years
10 starting in the subsequent rate case?

11 A. That's my understanding of the
12 legislation.

13 Q. Do you agree with me that the GAAP
14 accounting rules would not allow Ameren Missouri to
15 book the equity portion of the regulatory asset as
16 revenue at the time the cost is incurred?

17 A. My general understanding is that
18 utilities in most circumstances are not able to book
19 an equity-based return component as a deferral --

20 Q. Okay.

21 A. -- for financial reporting purposes.

22 Q. Right.

23 A. For regulatory reporting, they can.

24 Q. I asked you about GAAP though and that's
25 financial. Right?

1 A. Right. Right.

2 Q. So that portion, the equity-based portion
3 that you just discussed, can't be booked until it's
4 actually billed. Correct?

5 A. That's my --

6 Q. Under GAAP rules?

7 A. That's my understanding.

8 Q. Okay. So there are some parts of
9 regulatory lag that aren't sor-- solved by PISA.
10 Right?

11 A. It doesn't entirely eliminate regulatory
12 lag on plant additions. I'd agree with that.

13 Q. And you haven't done any analysis to
14 quantify those portions of the unresolved regulatory
15 lag. Correct?

16 A. To translate those into dollars for
17 Ameren Missouri, I have not.

18 Q. Okay. So you're speculating -- when you
19 raise your opinion, you're speculating that -- whether
20 or not PISA will drive shorter time periods between
21 rate cases, aren't you?

22 A. Well, any discussion of Ameren's future
23 rate case filing plans is -- is I think speculative at
24 this point, including mine.

25 Q. All right. Thank you, sir.

1 JUDGE DIPPELL: Thank you. Are there any
2 questions for Mr. Oligschlaeger from the Commission?
3 All right. Is there redirect?

4 REDIRECT EXAMINATION BY MS. MERS:

5 Q. Counsel for Ameren was asking you
6 questions about the difference between the AAO
7 standard and the tracker standard. Do you recall
8 questions along that line?

9 A. I do.

10 Q. When you read the terms "deferral
11 accounting and authority" in Mr. Wills' Direct
12 Testimony, what mechanism did you believe he was
13 requesting?

14 A. That's more consistent with the standard
15 AAO type request, in my opinion.

16 Q. And if Mr. Wills' Direct Testimony had
17 mentioned trackers or tracking of costs to recover
18 later, how would your Rebuttal Testimony have
19 responded instead?

20 A. It would have probably specifically
21 referenced the criteria Staff has advocated in the
22 past for consideration of trackers.

23 Q. Would the ultimate rejection conclusion
24 remain the same?

25 A. No. In my opinion, Ameren's request in

1 this case does not meet either standard or set of
2 criteria.

3 **Q. You were asked about a hypothetical rate**
4 **case. What types of expenses and items are trued up?**

5 A. The major drivers of revenue requirement
6 tend to be trued up; things like plant in service,
7 accumulated depreciation, accumulated deferred taxes,
8 payroll expense, customer growth as it impacts
9 revenues. And there's probably other items I'm
10 omitting. Pensions and OPEB so th-- there's a number
11 of different areas that are typically trued up in a
12 rate case.

13 **Q. And if Staff knows that there is a new**
14 **expense that would be coming in during true-up, how**
15 **likely is it that Staff would look at that expense?**

16 A. If there is a new expense which perhaps
17 has not been fully embedded in a test year or update
18 period, that is something we would look at as part --
19 we would seek to look at that as part of a true-up
20 process.

21 **Q. You were asked about PISA and regulatory**
22 **lag and rate case timing. In your experience at the**
23 **Commission, what is the biggest driver of rate case**
24 **timing?**

25 A. Well, to probably be more fundamental

1 than what you're looking for, deficient earnings on
2 the part of the company, either actual or projected in
3 the near future. And that can be driven by a number
4 of things. In many cases in the past it has been
5 adding new plant not included -- not yet included in
6 rate-base for rate making purposes.

7 **Q. And that would be regulatory lag?**

8 A. That's regulatory lag, yes.

9 **Q. And you believe that PISA reduces**
10 **regulatory lag?**

11 A. It significantly reduces regulatory lag.

12 **Q. Are rate cases expensive endeavors?**

13 A. In -- for major companies in most cases,
14 yes.

15 **Q. How likely is it for a utility to undergo**
16 **the expensive lengthy rate case procedure without the**
17 **big motivator of losing out on plant in service, the**
18 **return in -- of it on -- the regulatory lag driver?**

19 A. Again, just based on my past experience,
20 I think that has probably been the biggest component
21 of regulatory lag for utility companies. It's
22 certainly been what I think they have complained about
23 the most in the past. There are other drivers too;
24 salary increase, for example, not reflected in rates
25 may partly drive a rate case. There's other items.

1 **Q. Okay. I have no further questions.**
2 **Thank you.**

3 JUDGE DIPPELL: Thank you. I believe
4 that concludes your testimony, Mr. Oligschlaeger, and
5 you may step down.

6 All right. I believe we have one more
7 witness on the list.

8 MS. MERS: Staff calls Robin Kliethermes
9 to the stand.

10 JUDGE DIPPELL: If I could get you to
11 raise your hand.

12 (Witness sworn.)

13 JUDGE DIPPELL: Thank you.

14 ROBIN KLIETHERMES, being first duly sworn, testified
15 as follows:

16 DIRECT EXAMINATION BY MS. MERS:

17 **Q. Will you please state and spell your name**
18 **for the record?**

19 A. My name is Robin Kliethermes.
20 Kliethermes, K-l-i-e-t-h-e-r-m-e-s.

21 **Q. Are you the same -- or by whom are you**
22 **employed and in what capacity?**

23 A. I am employed by the Missouri Public
24 Service Commission as the rate and tariff examination
25 manager of the Tariff and Rate Design Department.

1 **Q. And are you the same Robin Kliethermes**
2 **who caused to be prepared certain testimony which has**
3 **been marked as Staff Exhibit 104, the Surrebuttal**
4 **Testimony of Robin Kliethermes?**

5 A. Yes.

6 **Q. And do you have any changes or**
7 **corrections to your testimony?**

8 A. I do not.

9 **Q. Is your testimony true and correct to the**
10 **best of your belief and knowledge?**

11 A. Yes.

12 **Q. And if I asked you those same questions**
13 **today, would you give the same answers?**

14 A. Yes.

15 MS. MERS: At this time I'd like to offer
16 Exhibit 104, the Surrebuttal Testimony of Robin
17 Kliethermes.

18 JUDGE DIPPELL: Would there be any
19 objection to Exhibit 104?

20 MS. TATRO: Yes, Your Honor. I object
21 and move to strike pages 2 line 7 through page 5,
22 line 19. The Commission's rules at 4 CFR 240-2.130
23 sub 7d say, Surrebuttal shall be limited to material
24 which is responsive to matters raised in another
25 party's Rebuttal Testimony.

1 The beginning of Ms. Kliethermes' s
2 testimony does respond to the testimony of Mister --
3 of Dr. Geoff Marke, so I'm not moving to strike that.
4 But starting on page 2, line 7, she is either
5 repeating or building upon Staff' s Make Ready tariff
6 proposal that' s in their report and Rebuttal
7 Testimony, and as such, is not appropriate Surrebuttal
8 Testimony.

9 JUDGE DIPPELL: And I'm sorry. What was
10 the -- that is through page --

11 MS. TATRO: Five, line 19.

12 JUDGE DIPPELL: -- 5?

13 Did you have a response, Ms. Mers?

14 MS. MERS: No response. Yeah, it was --
15 it was just for the convenience of the Commission to
16 concisely summarize, but.

17 JUDGE DIPPELL: So you're basically
18 admitting that that is non-responsive or that it's
19 otherwise contained in her testimony?

20 MS. MERS: Yes, it is otherwise contained
21 in other testimony. We were just trying to concisely
22 put in one place all of our recommendations.

23 JUDGE DIPPELL: All right then. I will
24 sustain the objection then. I will strike page 2,
25 line 7 through page 5, line 19 from the Surrebuttal

1 Testimony of Ms. Kliethermes. Are there any other
2 objections?

3 Seeing none, I will admit Exhibit 104
4 minus the portions that I previously mentioned as
5 being stricken.

6 (Exhibit 104 was received into evidence.)

7 MS. MERS: All right. I tender the
8 witness for cross.

9 JUDGE DIPPELL: Is there any
10 cross-examination on the remainder of Ms. Kliethermes'
11 testimony by Public Counsel?

12 MR. CLIZER: No. Thank you, Your Honor.

13 JUDGE DIPPELL: ChargePoint?

14 MR. COMLEY: No questions.

15 JUDGE DIPPELL: Renew Missouri?

16 MR. OPITZ: No, thank you, Judge.

17 JUDGE DIPPELL: Ameren?

18 MS. TATRO: No questions. Thank you.

19 JUDGE DIPPELL: Are there any questions
20 for Ms. Kliethermes from the Commission?

21 All right then. I guess there is nothing
22 to redirect. Ms. Kliethermes, that was as quick as it
23 gets.

24 THE WITNESS: Thank you.

25 JUDGE DIPPELL: Your testimony is

1 concluded and you may step down.

2 Okay. You guys took me by surprise on
3 that one so -- but I'm glad that that appears to have
4 wrapped up all of the witness testimony. Am I
5 correct? I didn't miss anyone?

6 MR. LOWERY: That's correct, Your Honor.

7 JUDGE DIPPELL: All right. Let me look
8 quickly at the exhibit list and make sure everything
9 that was intended to be offered was offered. There
10 was a lot of testimony during the course of the last
11 couple of days about the tariffs that were attached to
12 the -- the tariffs that were attached to the
13 application that started this case, but those tariffs
14 weren't actually attached to the testimony, were they?

15 MS. TATRO: They weren't. I -- I would
16 move those into the record.

17 JUDGE DIPPELL: Let me -- hang on just a
18 second. And there were actually like three different
19 portions, including the line extension tariff. Right?
20 Is there --

21 MS. TATRO: Right. The line extension
22 tariff, of course, has been superseded by the
23 stipulation.

24 JUDGE DIPPELL: Right.

25 MS. TATRO: But right. There's Charge

1 Ahead tariffs and there's tariffs for -- or Charge
2 Ahead EV and Charge Ahead Business Solutions.

3 JUDGE DIPPELL: I guess the part I was
4 most concerned about then were the Charge Ahead
5 electric vehicle program and the Charge Ahead Business
6 Solutions. Just --

7 MR. LOWERY: Your Honor, would it make
8 sense just for the Commission to take notice of those
9 tariffs as filed in the docket?

10 JUDGE DIPPELL: We can, yeah. I just
11 wanted to make sure that there wouldn't be any
12 objection to the Commission doing so. Would there be
13 any objection to the Commission taking notice of the
14 tariffs as they were filed with Ameren's application
15 since that's been the subject of the testimony from
16 the last two days?

17 MS. TATRO: No objection.

18 JUDGE DIPPELL: Seeing none, then the
19 Commission will take notice of those tariffs as were
20 filed with Ameren's application in this case.

21 And I believe everything else that was
22 intended to be offered was admitted

23 MR. CLIZER: Your Honor, I might have
24 missed it. Was 115 offered? That would be the
25 Indiana-- sorry, Indiana Power and Light --

1 JUDGE DIPPELL: Yes. I show that was
2 offered and admitted.

3 MR. CLIZER: Thank you very much.

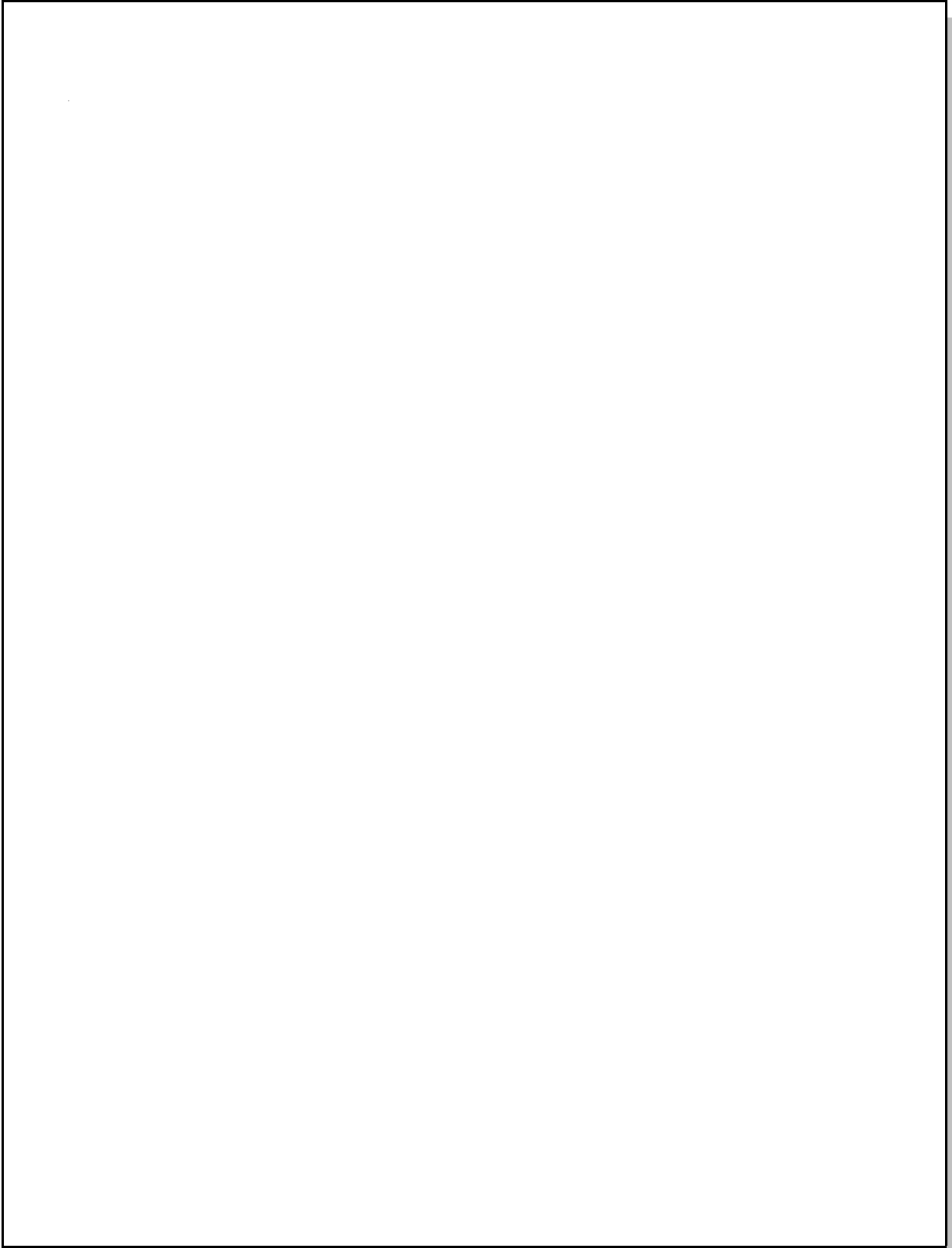
4 JUDGE DIPPELL: Any other questions about
5 exhibits?

6 All right. I had on the original order
7 for the transcripts to be available by December 12th,
8 and I don't believe there will be any issue with that.
9 Initial briefs are due on January 7th and reply briefs
10 are due on January 17th. And because the operation of
11 law date in this case is February 21st, I will just
12 tell you now do not ask me for an extension.

13 And I would appreciate if you would --
14 and the Commission would appreciate it if you would
15 cite to the evidence when you're making your
16 arguments, but also be sure and address any actual
17 legal arguments for the Commission in making the
18 ruling that you're wanting them to make.

19 So I think that's all I have. Are there
20 any-- anything else for the Commission that needs to
21 go on the record? All right. Then thank you very
22 much for your participation and that will adjourn the
23 hearing. We can go off the record.

24 (Whereupon, the hearing was adjourned.)
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CERTIFICATE OF REPORTER

I, Tracy Thorpe Taylor, CCR No. 939, within the State of Missouri, do hereby certify that the testimony appearing in the foregoing matter was duly sworn by me; that the testimony of said witnesses was taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this matter was taken, and further, that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

Tracy L.J. Taylor



Tracy Thorpe Taylor, CCR

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