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STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

TRANSCRIPT OF PROCEEDINGS
Hearing
January 31, 2017

Jefferson City, Missouri
Volume 4

In the Matter of the)
Application of Union Electric)
company d/b/a Ameren Missouri)
for Approval of a Tariff) Case No.
Setting a Rate for Electric) ET-2016-0246
Vehicle Charging Stations.)

MICHAEL BUSHMANN, Presiding,
REGULATORY LAW JUDGE.

DANIEL Y. HALL, Chairman
SCOTT T. RUPP,
MAIDA J. COLEMAN,
COMMISSIONERS.

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1 P R O C E E D I N G S

2 (DED EXHIBITS 250, 251, 252 AND 253
3 WERE MARKED FOR IDENTIFICATION.)

4 JUDGE BUSHMANN: Good morning.
5 Today is January 31st, 2017, and this is the
6 continuation of the evidentiary hearing in File
7 No. ET-2016-0246. And before we proceed any
8 further, please make sure that you have silenced
9 any cell phones or mobile devices.

10 At our last hearing we completed the
11 testimony of out-of-town witnesses. We still have
12 witnesses from Staff, Division of Energy and Public
13 Counsel still to testify. So we'll proceed in that
14 order today.

15 Are there any preliminary matters
16 before we take any witnesses?

17 MS. SHEMWELL: Yes, your Honor.
18 Thank you. Lera Shemwell representing the Office
19 of the Public Counsel.

20 JUDGE BUSHMANN: Can you use your
21 microphone, please?

22 MS. SHEMWELL: Sorry. Lera Shemwell
23 representing the Office of the Public Counsel. I
24 have a certified record from the Department of
25 Revenue that I would like to offer into evidence.

1 I have distributed it to the parties, and I would
2 like to hand it to you and the Commission, if I
3 might.

4 JUDGE BUSHMANN: That will be fine.
5 That will be marked as Exhibit 203.

6 MS. SHEMWELL: That is correct.

7 (OPC EXHIBIT 203 WAS MARKED FOR
8 IDENTIFICATION.)

9 JUDGE BUSHMANN: Can you describe for
10 me what this is and what it's being offered for?

11 MS. SHEMWELL: Certainly. The
12 department of records (sic) keeps as -- in the
13 normal course of its business keeps records
14 concerning vehicles and the type of vehicles that
15 are driven in Missouri, and this exhibit shows on
16 the last two pages the number of electric vehicles
17 that are registered in the state of Missouri, at
18 least those on whom people have paid taxes, and
19 it's broken down by county.

20 This is in response to a question by
21 Commissioner Stoll about how many electric vehicles
22 there are in the state. We believe this to be a
23 fair -- or a reasonable document from the
24 Department of Revenue that's self certifying.

25 I was asked one question, and this

1 does not include those vehicles with special
2 decals. There are approximately 500 of those. I
3 don't have the breakdown by county for those. So I
4 would move for admission of Exhibit 203.

5 JUDGE BUSHMANN: Any objections?

6 (No response.)

7 JUDGE BUSHMANN: Hearing none,
8 Exhibit 203 is received into the record.

9 (OPC EXHIBIT 203 WAS RECEIVED INTO
10 EVIDENCE.)

11 JUDGE BUSHMANN: Anything further,
12 Ms. Shemwell?

13 MS. SHEMWELL: Nothing further.
14 Thank you.

15 MR. ANTAL: Judge, as another
16 preliminary matter, I've been notified that one of
17 Division of Energy's witnesses had some difficulty
18 getting here this morning. He is in transit, but
19 depending on when he arrives, we may need to take
20 Division of Energy witnesses out of order.

21 JUDGE BUSHMANN: I have no problem
22 with that.

23 MR. ANTAL: Thank you.

24 JUDGE BUSHMANN: Okay. We're ready
25 for Staff witnesses. Would Staff like to call

1 their first witness?

2 MS. PAYNE: Staff would call witness
3 Natelle Dietrich to the stand.

4 (Witness sworn.)

5 JUDGE BUSHMANN: Please be seated.

6 NATELLE DIETRICH testified as follows:

7 DIRECT EXAMINATION BY MS. PAYNE:

8 Q. Can you please state and spell your
9 name for the court reporter.

10 A. Natelle, N-a-t-e-l-l-e, Dietrich,
11 D-i-e-t-r-i-c-h.

12 Q. And by whom are you employed and in
13 what capacity?

14 A. The Public Service Commission as the
15 Commission Staff Director.

16 Q. And did you prepare rebuttal
17 testimony that was filed in this matter as
18 Exhibit 100?

19 A. Yes, I did.

20 Q. And do you have any changes or
21 corrections to make to that testimony at this time?

22 A. I do not.

23 Q. Are the answers contained in that
24 testimony true and correct to the best of your
25 knowledge?

1 A. Yes, they are.

2 Q. And if I asked the same questions
3 today, would you answer in the same manner?

4 A. Yes, I would.

5 MS. PAYNE: I move for the admission
6 of Staff's Exhibit 100 at this time.

7 JUDGE BUSHMANN: Any objections?

8 (No response.)

9 JUDGE BUSHMANN: That exhibit is
10 received into the record.

11 (STAFF EXHIBIT 100 WAS RECEIVED INTO
12 EVIDENCE.)

13 MS. PAYNE: I tender this witness for
14 cross.

15 JUDGE BUSHMANN: First cross would be
16 Ameren Missouri.

17 CROSS-EXAMINATION BY MR. MITTEN:

18 Q. Good morning, Ms. Dietrich.

19 A. Good morning.

20 Q. As I understand it, in Staff's
21 prefiled testimony Staff supports the approval of
22 Ameren Missouri's electric vehicle charging program
23 tariff but argues that all revenues and costs
24 associated with the program should be below the
25 line; is that correct?

1 A. That was Staff's prefiled testimony.
2 After reviewing some of the additional testimony,
3 specifically the testimony from Ameren Missouri
4 witness Tom Byrne, Staff -- or I talked to Staff
5 Counsel's office and we have altered that position
6 over time and we are recommending that it be above
7 the line but that there would be an imputation to
8 protect ratepayers.

9 Q. And that imputation would be to the
10 extent that revenues derived from the program were
11 less than the costs of the program, that difference
12 would be imputed; is that correct?

13 A. That's correct.

14 Q. And the costs of the program that
15 both Staff and I was referring to would include
16 operating costs, taxes, depreciation and return on
17 investments; is that correct?

18 A. That's correct.

19 Q. I'd like to explore for the next
20 couple of minutes the regulatory implications of
21 the change in Staff's position. If revenues and
22 costs associated with the utility service are
23 booked below the line, they're not considered as
24 part of the revenue requirement for ratemaking
25 purposes; is that correct?

1 A. That's correct.

2 Q. And if revenues and costs associated
3 with utility service are booked above the line,
4 they would be considered in the revenue requirement
5 used for ratemaking; is that right?

6 A. That's correct.

7 Q. And more specifically, investment
8 booked above the line would be included in rate
9 base; is that correct?

10 A. Yes, it would.

11 Q. And revenues and costs booked above
12 the line would be included in the revenue
13 requirement, correct?

14 A. Correct.

15 Q. I'd like to pose a hypothetical for a
16 moment and see if I understand exactly how Staff's
17 proposal would work. Let's assume that in a test
18 year in a future rate case Ameren Missouri shows
19 that its costs for operating the pilot project are
20 \$100,000 and the revenues it derived from vehicle
21 charging are \$35,000. Are you following me so far?

22 A. Yes.

23 Q. And without any adjustment in those
24 numbers, that would result in a \$65,000 shortfall;
25 is that correct?

1 A. Yes.

2 Q. And without any adjustment, that
3 shortfall would normally increase the revenue
4 requirement --

5 A. That's correct.

6 Q. -- is that correct?

7 A. Uh-huh.

8 Q. Under Staff's proposal, you would
9 impute revenue equal to that shortfall, and that
10 would be \$65,000, correct?

11 A. Assuming no other adjustments in that
12 scenario, yes.

13 Q. And for ratemaking purposes, that
14 imputation would have the effect of canceling out
15 that shortfall?

16 A. That's correct.

17 Q. So the revenue requirement impact
18 would be zero?

19 A. Correct.

20 Q. So for as long as the pilot project
21 costs exceed revenues, there wouldn't be any cost
22 recovery by Ameren Missouri; is that correct?

23 A. Assuming that the imputation was done
24 correctly.

25 Q. Now, your testimony indicates that

1 you've been director of the Commission's Utility
2 Operations Division from 2007 to 2015 and that
3 since 2015 you've been the Commission Staff
4 Director; is that correct?

5 A. Yes.

6 Q. But your tenure with the Commission
7 precedes those two positions, would you agree?

8 A. That's correct.

9 Q. During the many years that you've
10 worked at the Commission, and especially during the
11 period in which you've held your two most recent
12 positions, have you become familiar with the legal
13 and regulatory principles that govern
14 investor-owned utilities in Missouri?

15 A. I'm not sure what you mean by the
16 legal and regulatory principles.

17 Q. I'll get more specific, but generally
18 speaking, you work with those legal and regulatory
19 principles on a fairly regular basis, don't you?

20 A. As a technical expert, yes.

21 Q. Would you agree that, generally
22 speaking, when the Commission authorizes an
23 investor-owned utility to provide a regulated
24 service, the law requires that rates be set at a
25 level that allows the utility to recover its

1 reasonable and prudently incurred costs and also
2 provides the utility a reasonable opportunity to
3 earn a fair rate of return?

4 A. The standard is just and reasonable
5 rates, and the utility is allowed to earn a
6 reasonable return.

7 Q. But more specifically, generally
8 speaking, a utility is allowed to recover its
9 reasonably and prudently incurred operating costs
10 and also have rates that give it an opportunity to
11 earn a fair rate of return?

12 A. Yes.

13 Q. And generally speaking, do you agree
14 that the booked amounts of operating revenues and
15 costs that a utility shows on its books and records
16 during a test year are presumed to be reasonable?

17 A. Could you repeat that, please?

18 Q. That was a very poorly worded
19 question and I will be happy to do so.

20 Would you agree, generally speaking,
21 that for ratemaking purposes, the amounts of
22 revenues and expenses that a utility books are
23 considered presumptively to be accurate and fair
24 and reasonable?

25 A. I would say subject to review by

1 audit staff, the Commission, that type of thing.

2 Q. And that presumption would be
3 rebuttable, you, Staff or any other party could put
4 on evidence showing why the booked amounts were not
5 reasonable?

6 A. Correct.

7 Q. Under Staff's proposal, what evidence
8 would Staff or any other party in a future rate
9 case be required to produce before additional
10 charging station revenues could be imputed for
11 ratemaking purposes?

12 A. What evidence would Staff be required
13 to produce?

14 Q. Staff or any other party who wanted
15 to impute additional revenues, what evidence would
16 they have to produce in order for the Commission to
17 be able to do that?

18 A. I think from Staff's perspective it
19 would be looking at the revenues that the company
20 received and the expenses and everything associated
21 with it that you outlined earlier, and whatever the
22 difference would be, it would just be a
23 calculation. So I'm not sure that there would be
24 any specific evidence, other than the mathematical
25 calculation.

1 Q. Would you have to make any showing
2 that the utility had acted unreasonably or
3 imprudently in order to impute that shortfall?

4 A. Oh, no.

5 Q. Now, you're aware that throughout the
6 three-year period of this proposed pilot project
7 Ameren has been very straightforward that it does
8 not expect that the revenues derived from vehicle
9 charging will equal or exceed the cost it incurs to
10 provide those charging services?

11 A. That's correct. And I think that's
12 one change, advantage if you will, from going below
13 the line to above the line. Because at least with
14 above-the-line recognition at some point presumably
15 that would change and it would be recoverable.

16 Q. Ms. Dietrich, can you think of any
17 instance in the last ten years where the Commission
18 has imputed revenue to an investor-owned electric
19 utility without first having evidence showing that
20 the utility had acted unreasonably or imprudently?

21 A. No.

22 MR. MITTEN: I don't have any further
23 questions. Thank you.

24 JUDGE BUSHMANN: Cross by
25 ChargePoint?

1 MR. COMLEY: Thank you, Judge.

2 CROSS-EXAMINATION BY MR. COMLEY:

3 Q. Ms. Dietrich, if I could direct you
4 to page 3 of your rebuttal, Exhibit 100. At the
5 top of the pa-- well, it's actually line 7 and 8.
6 I'm reading there that you're quoting from the
7 Commission -- or rather the Staff's response to the
8 Order Directing Filing from the Commission, and one
9 quote is, Consequently the operation of an electric
10 vehicle charging station is generally subject to
11 the regulation of the Commission. Is that a
12 correct reading of your testimony?

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

14 Q. Well, I have a hypothetical for you,
15 too.

16 A. Okay.

17 Q. I want you to assume that Southwest
18 Airlines decides to pay Lambert Airport to install
19 25 EV charging stations at the parking garage for
20 the Southwest terminal at Lambert. I want you to
21 further assume that the City will own the charging
22 stations. Further assume that Southwest will be
23 allowed to set the rate for the service for those
24 EV vehicles -- or those chargers. It decides not
25 to charge a fee for Southwest Rapid Rewards

1 customers. They are the preferred customer. All
2 others would have to pay a per-minute charge.

3 In the opinion of Staff and the way
4 you would enforce the law on the charging stations,
5 are Southwest or the City of St. Louis engaged in
6 activity that's subject to Commission regulation?

7 A. Well, I'm not an attorney, but from
8 my understanding of discussions with Staff
9 Counsel's office, either Southwest or the City
10 could potentially be subject to Commission
11 jurisdiction because they are selling electricity.

12 MR. COMLEY: That's all I have.
13 Thank you.

14 JUDGE BUSHMANN: The next cross is
15 from Consumers Council, but I don't see Mr. Coffman
16 here. Is there anybody else representing Consumers
17 Council?

18 Okay. Cross by Kansas City Power &
19 Light?

20 MR. FISCHER: No questions, your
21 Honor.

22 JUDGE BUSHMANN: Division of Energy?

23 CROSS-EXAMINATION BY MR. ANTAL:

24 Q. Good morning, Ms. Dietrich.

25 A. Good morning.

1 Q. According to Ameren Missouri's
2 testimony in this case, they calculate that
3 residential customers would have to pay
4 approximately 11.3 cents annually for four years as
5 a result of these EVCSS. Is that your
6 understanding?

7 A. Approximately 1 cent a month, so yes.

8 Q. Okay. And based off Staff's position
9 of potential imputation of any shortfall in the
10 incremental cost of providing this service, is it
11 safe -- or is it a correct characterization of
12 Staff's position that 11.3 cents per customer --
13 per residential customer annually for four years is
14 unreasonable?

15 A. Could you repeat that, please?

16 Q. Sure. So earlier you were stating
17 that it's Staff's position that any shortfall in
18 the incremental cost of providing this service,
19 that is to revenues, that there would be a revenue
20 imputation. That would be the position Staff would
21 take; is that correct?

22 A. That's correct.

23 Q. Okay. So according to Ameren's
24 testimony in this case, there would be a revenue
25 shortfall for at least the first four years of them

1 providing these EVCSS; is that your understanding?

2 A. Yes.

3 Q. And their estimated shortfall would
4 come out to be 11.3 cents per residential customer
5 on an annual basis for four years; is that your
6 understanding?

7 A. Yes.

8 Q. Based off Staff's position on
9 imputation of any shortfall, is 11.3 cents per
10 customer per year for four years unreasonable?

11 A. Assuming all else equal, yes.

12 MR. ANTAL: Okay. Thank you very
13 much. No further questions.

14 JUDGE BUSHMANN: The next cross would
15 be by NRDC. I don't see Mr. Halso. Is there
16 anybody else representing NRDC today?

17 MR. ROBERTSON: I have no questions.
18 That goes for Sierra Club, too.

19 JUDGE BUSHMANN: Mr. Robertson, you
20 said you have no questions on behalf of Sierra Club
21 either?

22 MR. ROBERTSON: Right.

23 JUDGE BUSHMANN: Public Counsel?

24 CROSS-EXAMINATION BY MS. SHEMWELL:

25 Q. Good morning, Ms. Dietrich.

1 A. Good morning.

2 Q. Forgive me if I call you Natelle at
3 some point. We've known each other. I'll try to
4 maintain the formalities.

5 A. That's fine.

6 Q. In terms of imputation of revenues
7 that Ameren asked you about, are you aware in CCN
8 cases where there's some question about the
9 economic viability of a project, that in order to
10 keep the risk of the success of the company on the
11 investors, the Commission has imputed revenues?

12 A. Not off the top of my head, no.

13 Q. I believe it was done in the Mo Gas
14 case. Does that ring a bell?

15 A. I'm familiar with the case generally,
16 but not enough to testify as to whether that's
17 correct or not.

18 Q. Okay. Thank you. These proposed
19 charging stations are designed to charge vehicle
20 batteries?

21 A. Is that a question?

22 Q. It is a question.

23 A. Yes.

24 Q. Specifically they recharge the EV
25 battery? Do I need to say right at the end of

1 every --

2 A. No. I was just going to say, you're
3 getting a little technical for me, but generally
4 that's my understanding.

5 Q. On September 28, Staff filed a
6 recommendation in this case. Has Staff -- do you
7 need to see a copy?

8 A. Yes, please.

9 Q. I'm going to ask you if Staff has
10 moved away from that position.

11 A. Yes, it has.

12 Q. And specifically in what way?

13 A. In the wherever clause in the
14 September 28th filing it says, Staff recommends
15 that the Commission only approve Ameren Missouri's
16 proposed tariff sheets if it orders that all
17 revenues, expenses and investments related to the
18 proposed electric vehicle charging stations be
19 recorded below the line and not charged to Ameren
20 Missouri ratepayers.

21 And after reading testimony which
22 raised the question of whether that position was
23 legal or not, I have consulted with legal counsel
24 and we were advised that it is not a legal position
25 for it to be a below-the-line treatment for a

1 regulated utility. And so we have recommended that
2 it be treated above the line but that revenues be
3 imputed for customers.

4 Q. Thank you. Are you aware that
5 Laclede Gas has a natural gas station where they
6 fuel vehicles, natural gas vehicles?

7 A. CNG, is that what you're referring
8 to?

9 Q. Yes, compressed natural gas.

10 A. Yes.

11 Q. The Commission doesn't regulate that,
12 right?

13 A. That's correct.

14 Q. Under the airport hypothetical, those
15 vehicles also run on compressed natural gas. Do
16 you know that?

17 A. No, I do not.

18 Q. Were you here for Anne Smart's
19 testimony?

20 A. Yes, I was.

21 Q. And she testified that ChargePoint
22 was planning to install charging stations along
23 I-70, which has been designated, I believe, as a
24 fast-charge corridor. Did you hear her testimony?

25 A. Yes, I did.

1 MR. MITTEN: I believe Ms. Shemwell
2 has mischaracterized Ms. Smart's testimony. I'm
3 not sure if she said ChargePoint was planning on
4 installing any. The testimony I think is pretty
5 ambiguous, but I'm pretty sure Ms. Smart did not
6 commit ChargePoint to install those stations.

7 JUDGE BUSHMANN: Revise your
8 question.

9 BY MS. SHEMWELL:

10 Q. Did she testify that they were
11 planning to install or service outlets -- I'm
12 sorry -- islands is the word, along the I-70
13 corridor?

14 A. She talked about ChargePoint having
15 plans. I don't recall her -- when she was
16 questioned as to the specifics of the plan, I
17 remember her being kind of vague and saying it was
18 confidential and she couldn't share some of the
19 information, but she talked generally about plans
20 and I-70.

21 Q. And you don't expect her to reveal
22 proprietary business information here?

23 A. No.

24 Q. She testified that -- it's on
25 page 335 of the transcript -- that Ameren's

1 **proposal inhibits competition. Do you recall that?**

2 A. Yes, I do.

3 **Q. Do you have a position on that**
4 **testimony?**

5 A. I don't specifically have a position
6 on the competition issue. I would say I'm not
7 quite sure what the competition issue is, because
8 at some points it was talking about -- or she was
9 talking about competition for equipment and RFPs
10 and at other points competition for the service, is
11 the way I was taking her testimony.

12 **Q. She specifically said it inhibited**
13 **their ability to sell a charging station to a site**
14 **host at full cost and develop a site if Ameren**
15 **provides a charging station for free where Ameren**
16 **has used its rate base in order to pay the cost of**
17 **charging station.**

18 MR. MITTEN: Your Honor, is
19 Ms. Shemwell still referring to Ms. Smart's
20 testimony on page 335 of the transcript?

21 MS. SHEMWELL: Yes.

22 MR. MITTEN: What is it you claim
23 that she said there?

24 MS. SHEMWELL: She said that they
25 could not compete because they would be selling a

1 charging station to the site host and Ameren would
2 be providing the charging station for free where it
3 used its rate base to pay the cost of the charging
4 station.

5 JUDGE BUSHMANN: What's your
6 question?

7 BY MS. SHEMWELL:

8 Q. Does that refresh your recollection
9 about specifically what she was referring to
10 competition?

11 MR. MITTEN: Your Honor, again, I
12 think Ms. Shemwell is mischaracterizing the
13 testimony. The word compete does not appear
14 anywhere on page 335 of the transcript.

15 JUDGE BUSHMANN: Are you reading
16 verbatim from the transcript?

17 MS. SHEMWELL: I am not.

18 JUDGE BUSHMANN: You're paraphrasing?

19 MS. SHEMWELL: I'm paraphrasing. I
20 can read verbatim. I especially could if I had my
21 reading glasses.

22 BY MS. SHEMWELL:

23 Q. I'm reading verbatim from page 335,
24 9 through 13. So our ability to sell at full cost
25 a charging station to a site host or to develop a

1 site if they are receiving something free of charge
2 from Ameren where Ameren has used the rate base in
3 order to pay for the cost.

4 The question above at lines 1 through
5 4 was, What if the Commission approved Ameren's
6 pilot program but allowed pricing to be competitive
7 or set by the market, would your company still feel
8 itself locked out of that corridor? And then what
9 I read to you earlier was her response. Their
10 ability to sell at full cost would be hampered if
11 the site received something free of charge.

12 A. Well, I don't have the transcript in
13 front of me, but I don't doubt that's what she
14 said, and --

15 Q. It's the highlighted portion
16 (indicating).

17 A. And what's your question about this?
18 I mean, that's what it says.

19 Q. You said you did not remember her
20 specifically addressing competition, and that's --

21 A. No. What I was saying was I wasn't
22 sure at times what angle she was coming from
23 because she discussed both competition related to
24 the equipment and the RFP, and then, like what you
25 cited here, she's talking about full -- their

1 ability to sell at full cost a charging station to
2 a site host or to develop a site. So I wasn't sure
3 if she was talking about being precluded from doing
4 both or if she was bouncing back and forth or she
5 was only talking about equipment.

6 Q. I wasn't questioning her testimony
7 but simply trying to narrow it a bit.

8 A. Right.

9 Q. I'll get that page back from you
10 before I move on. Thank you.

11 You agree Ameren is proposing six
12 charging stations?

13 A. Yes.

14 Q. Two are in the greater St. Louis
15 area, one in St. Louis City and one in St. Charles
16 County?

17 A. Are you counting that as four or are
18 you --

19 Q. I'm just counting that as two of the
20 six.

21 A. Okay. Yes.

22 Q. The other three along I-70 are
23 Warrenton, Kingdom City and Boonville?

24 A. Correct.

25 Q. And then one in Jefferson City?

1 A. Right.

2 Q. Thank you. Do you have an idea about
3 what might motivate a buyer to purchase an EV?

4 MS. PAYNE: I'm going to object to
5 this. This calls for speculation.

6 JUDGE BUSHMANN: Sustained.

7 MS. SHEMWELL: I was actually asking
8 her if she knew, not to speculate.

9 JUDGE BUSHMANN: I don't see how
10 her -- it's still speculation in my view.

11 BY MS. SHEMWELL:

12 Q. Do you agree that if these go into
13 rate base, Ameren customers will pay a return of
14 the investment and return on the investment?

15 A. It would be part of the calculation
16 for both of those, yes.

17 MS. SHEMWELL: Thank you.

18 JUDGE BUSHMANN: Any further
19 questions?

20 MS. SHEMWELL: No.

21 JUDGE BUSHMANN: Questions by the
22 Commissioners?

23 QUESTIONS BY CHAIRMAN HALL:

24 Q. Good morning, Ms. Dietrich.

25 A. Good morning.

1 Q. If I understand Staff's position
2 concerning its change in position, Staff made that
3 decision because it viewed its prior position as
4 contrary to Missouri law?

5 A. That's correct.

6 Q. Can you explain that to me?

7 A. It's my understanding from talking to
8 Staff Counsel that if a service is regulated or if
9 it's determined that an entity such as Ameren
10 Missouri offers a regulated service, that it cannot
11 be below-the-line treatment, it has to be allowed
12 to include that investment expenses, so on and so
13 forth in rate base in the revenue requirement.

14 Q. And you believe that Staff's change
15 in position on this cures that legal concern?

16 A. That's what I'm advised, yes.

17 Q. Even though the effect would be
18 essentially the same --

19 A. The --

20 Q. -- in years where revenue was less
21 than costs?

22 A. The effect would be essentially the
23 same, but it would still be included in rate base.
24 It would still be included in the revenue
25 requirement. So the imputation and the costs that

1 were actually reflected of the revenues --
2 reflective of the revenues would be incorporated in
3 all the ratemaking calculations and that type of
4 thing. So that's where the difference is.

5 Q. Looking at Staff's current position
6 on this, my understanding is that you would propose
7 that the Commission look at all of the costs
8 related to the program, all the revenues related to
9 the program and impute the difference?

10 A. Correct.

11 Q. So that would not take into account
12 any benefits to ratepayers from the program
13 resulting from increased load. So, for example,
14 Ameren's expert -- experts assume that at some
15 point in time, as electric vehicle use increases,
16 there's going to be increased load from charging at
17 home from these vehicles and that would produce a
18 benefit to all Missouri -- or excuse me -- to all
19 Ameren Missouri ratepayers, but Staff's position
20 wouldn't take that into account when determining
21 how much income to impute to the company?

22 A. To be honest, since this isn't the
23 rate case, we haven't refined what would all be
24 included. But just generally speaking, I think
25 from our conversations at this point, that would be

1 true.

2 Q. You also indicated that -- in
3 response to questions from counsel for the company,
4 that the position that Staff is taking on this
5 issue has no precedent?

6 A. Not that I'm aware of.

7 Q. And can you explain to me why Staff
8 is taking a position for which there is no
9 precedent? What is so unique about this situation
10 that is resulting in this particular proposal from
11 Staff?

12 A. What makes this unique is take, for
13 instance, the Missouri Energy Efficiency Investment
14 Act, MEEIA. It is -- the programs are offered to a
15 certain subset of customers, but the statute
16 requires that the Commission consider benefits to
17 all customers, and it is a Ameren Missouri centric,
18 if you can make that a word, offering.

19 The difference with this is it's
20 Ameren Missouri offering it, but it's not just
21 Ameren Missouri customers that can take advantage
22 of it. They're being placed along I-70 and
23 Jefferson City, and so anybody, whether it's
24 somebody from the state of California, somebody
25 from the City of St. Louis, can take advantage of

1 them.

2 And there is no requirement, if you
3 will, that there be benefits to Ameren Missouri
4 customers. There is no requirement that Ameren
5 Missouri customers are the ones that use it. So
6 we're -- it's a different animal in who it's being
7 pro-- who it's being offered to.

8 **Q. Is it Staff's position that if the**
9 **Commission were to determine that it had**
10 **jurisdiction over these charging stations, that it**
11 **must also assert jurisdiction over charging**
12 **stations owned by Tesla and charging stations built**
13 **by ChargePoint?**

14 A. I don't think you can make that
15 general statement. It would have to be on a
16 case-by-case basis depending on how their offering
17 is structured, what they're charging, if they're
18 basically selling electricity. So generally, yes,
19 but it would have to be looked at on a case-by-case
20 basis.

21 **Q. And you started to, but could you**
22 **give me the criteria by which Staff would recommend**
23 **we look at this on a case-by-case basis?**

24 A. Do you mean how we would look at it
25 or --

1 **Q. On what basis would Staff recommend**
2 **that the Commission assert jurisdiction over one**
3 **charging station but not another?**

4 A. If they are, quote, selling
5 electricity, then the Commission would assert
6 jurisdiction over that particular charging station
7 or that particular entity.

8 **Q. So what charging stations that you're**
9 **aware of are not selling electricity?**

10 A. We haven't looked at it that closely,
11 but there are some that we're generally aware of
12 that don't charge the customer. They have some
13 sort of other arrangements like, for instance, with
14 the host where the host is offering it for whatever
15 reason. So the host is not charging the customer
16 for the electricity, so they are not selling
17 electricity, although they're buying electricity
18 from Ameren Missouri or Kansas City Power & Light
19 or whoever their provider is. And so it's included
20 in just their general rates.

21 **Q. So could a -- could the owner of a**
22 **charging station avoid Commission jurisdiction**
23 **simply by not selling electricity by kilowatt hour**
24 **and instead establishing some kind of arrangement**
25 **such that there's a different payment method? Is**

1 **that all it takes?**

2 A. That's getting into kind of a legal
3 interpretation, but I think as long as they're
4 charging for it. I mean, I don't know that you can
5 say as long as you charge in some other way besides
6 a kilowatt hour that means you don't have to do it.
7 I think the whole issue is they're actually
8 charging for it, no matter whether it's a fixed
9 rate or a per-minute rate or a per kilowatt hour
10 rate, if they're selling the electricity.

11 Q. Now, it's Staff's position that in
12 order for the Commission to assert jurisdiction,
13 the electricity, the charging station must be open
14 to the public, correct? This must be a public use?

15 A. Correct.

16 Q. So what about Tesla where those
17 charging stations are only available to individuals
18 who own Teslas, would that pull them out of
19 Commission jurisdiction?

20 A. Without knowing all the specifics, I
21 would say no, because they are still potentially
22 selling electricity, even though it's to a subset
23 of customers that can use it.

24 Q. Do you believe that there is any
25 policy or legal basis for the Commission to draw a

1 distinction between the infrastructure, the
2 distribution infrastructure versus the actual
3 charging island itself in terms of whether --
4 whether the Commission should assert jurisdiction
5 and whether or not such costs should be included in
6 rates?

7 A. If I'm understanding your question,
8 no, there should not be a distinction, because
9 whether it's the distribution or it's the island,
10 if you will, it's just another component of the
11 electric plant.

12 Q. Well, couldn't you agree that there's
13 at least a -- there could be a strong argument that
14 we should assert jurisdiction over the whole
15 program, but isn't there even a stronger argument
16 with regard to the distribution? I mean, that's --
17 that's the type of infrastructure that has been
18 included in rates in Missouri for 100 years?

19 A. Right.

20 Q. So you can draw a distinction in that
21 respect, correct?

22 A. I think you could draw a distinction,
23 yes. I'm just saying that I think from our
24 perspective and my understanding of the
25 interpretation of the law, it would all be -- all

1 be part of the plan.

2 Q. If the Commission were to assert
3 jurisdiction over these charging stations, do you
4 believe that Ameren would have eminent domain
5 rights for where it wants to put these charging
6 stations?

7 A. I have no idea.

8 Q. What about Tesla, would Tesla have
9 eminent domain rights?

10 A. I don't know.

11 Q. ChargePoint, would ChargePoint have
12 eminent domain rights?

13 A. I don't know.

14 Q. Is that concerning to you, that they
15 might?

16 A. I -- I haven't really thought about
17 it.

18 CHAIRMAN HALL: I have no further
19 questions. Thank you.

20 QUESTIONS BY COMMISSIONER RUPP:

21 Q. Good morning.

22 A. Good morning.

23 Q. Just following up on ChargePoint's
24 hypothetical about Southwest Airlines and stuff,
25 and it was brought up Aspire has natural gas

1 stations currently right now, I know, operating in
2 St. Louis. Do they -- do they sell that to the
3 public? I know they use it for their own fleets,
4 but do they sell that to the public?

5 A. Laclede has compressed natural gas
6 vehicular fuel rate in their tariff, and so I'm not
7 sure if that's what you're referring to, but
8 Laclede does have a compressed natural gas or
9 vehicular fuel rate that it has in its tariff to
10 sell to the general public.

11 Q. And that is in their tariff?

12 A. Yes.

13 Q. So following up on the Chairman's
14 question, if I were to charge a flat service fee
15 just for utilizing the charging station and I'm not
16 charging for per kilowatt hour, I'm just charging a
17 convenience fee --

18 A. Okay.

19 Q. -- would that still be, in Staff's
20 opinion, something that should be regulated by the
21 Commission?

22 A. I think from the advice that I'm
23 getting from Staff Counsel, it would be because the
24 electricity is being sold. I guess it would be --
25 like I said, we'd have to look at it on a

1 case-by-case basis and how that convenience fee was
2 being packaged or who was offering it.

3 So I don't know that we can make
4 general statements and say it would be everybody,
5 it would be all ChargePoint, it would be all Tesla
6 or it would be all the stations that are at the
7 Botanical Garden in St. Louis. We just don't know
8 enough information about all of those.

9 Q. Assuming that this pilot goes through
10 and is successful and Ameren has -- sees a demand
11 for additional vehicle charging stations in their
12 footprint, would they be allowed under their
13 current laws and tariffs in the rules to franchise
14 these vehicle charging stations to a third party,
15 since they're the regulated entity, and then they
16 could offer those as individual franchises?

17 A. I think that goes back to the
18 discussion that was had in the first day of
19 hearings about Ameren's tariff where it talks about
20 prohibition on resale of service, and so I think
21 the way their tariff is currently written, no, they
22 could not.

23 Q. So then that touches on the issue
24 that Staff currently believes that Tesla and all
25 those places that are third party selling

1 electricity are operating illegally in the state?

2 A. Yeah. I think that's a fair
3 assessment.

4 Q. So making the assumption that if we
5 didn't want to regulate every -- you know, the
6 Botanical Gardens and everybody that's offering
7 these type of services and Tesla stations, that
8 that language would be removed, would it be allowed
9 under our rules and regulations for a regulated
10 entity to offer a franchise to a vehicle charging
11 station?

12 A. That's getting into some legal
13 interpretation, but I think generally that would
14 help. And again, I think we'd still probably have
15 to look at it on a case-by-case basis to see what
16 the situation is.

17 COMMISSIONER RUPP: Okay. That's all
18 I have. Thank you.

19 CHAIRMAN HALL: Judge, I have one
20 more follow-up question. I'm sorry.

21 FURTHER QUESTIONS BY CHAIRMAN HALL:

22 Q. Following up on your discussion with
23 Commissioner Rupp on the current Ameren tariff that
24 prohibits resale of electricity, has Staff taken a
25 position in Ameren's upcoming rate case on that

1 position, on that provision?

2 A. No, we have not.

3 Q. Would Staff be willing to look at
4 whether or not that prohibition should be lifted,
5 at least with regards to charging stations, in the
6 upcoming rate case?

7 A. I don't believe, other than the
8 Commission questions, the electric vehicles are
9 actually an issue in Ameren's current rate case.
10 But we would not be opposed to looking at this
11 language.

12 Q. Do you see a connection between
13 attempting to increase competition in this area and
14 the elimination of that provision?

15 A. I don't know if it would increase
16 competition, but I think this definitely puts a
17 damper on the potential.

18 CHAIRMAN HALL: Okay. Thank you.

19 COMMISSIONER RUPP: I want to follow
20 up.

21 FURTHER QUESTIONS BY COMMISSIONER RUPP:

22 Q. A little back and forth here. So in
23 Staff's position, is competition desired in the
24 vehicle charging station arena?

25 A. We haven't taken a position on

1 whether competition is desired or not. I don't
2 know that we would be opposed to it, but we have
3 not taken a position.

4 Q. So from a policy perspective,
5 Staff -- does Staff have a position that all
6 vehicle charging stations in the state of Missouri
7 should be regulated entities or that it should be a
8 competitive?

9 A. If they are selling electricity, the
10 way the statute is written, they would have to be a
11 regulated entity. So I guess it could be a
12 quasi-competitive market. Those that aren't
13 selling -- if you're not selling electricity, it
14 could be competitive, but if they are selling
15 electricity, then my understanding is they would
16 have to be regulated.

17 Q. And is that summation based off of
18 the statute or the Staff's experience in providing
19 regulated electric service in the state?

20 A. The statute.

21 Q. Would Staff have a position on the
22 changing of the statute?

23 A. To allow competition?

24 Q. Or to --

25 A. Or to exempt --

1 Q. To strengthen it or to allow it. To
2 allow it or --

3 A. No.

4 COMMISSIONER RUPP: Thank you, Judge.

5 JUDGE BUSHMANN: Recross, Ameren
6 Missouri?

7 MR. MITTEN: Just a few questions

8 RECROSS-EXAMINATION BY MR. MITTEN:

9 Q. I'm trying to get to the bottom of
10 the basis for the distinction that Staff draws
11 between those charging stations that would be
12 regulated by the Commission and those that would
13 not.

14 In response to questions from
15 Commissioner Hall, you indicated that the
16 difference was if the station was charging for the
17 charging services, it would be regulated by the
18 Commission, but if it wasn't charging it would not;
19 is that correct?

20 A. If it's selling electricity, correct.

21 Q. Ameren -- and you said you were
22 familiar with the fact that Ameren Missouri
23 currently has a tariff that prohibits sale for
24 resale; is that correct?

25 A. That's correct.

1 Q. If that tariff were modified so that
2 electric charging stations were exempted from that
3 restriction, would Staff's position still be that
4 if a privately owned charging station were charging
5 for its charging services, it would still be
6 regulated by the Commission?

7 A. And that's where I'm getting kind of
8 gray because we're talking about legal
9 interpretations, but I think that the tariff
10 language definitely prohibits it. The statute is
11 where it says, if you're charging for electricity,
12 you have to be regulated.

13 So I'm not sure that just removing
14 the language from the tariff is enough, because the
15 statute would still be in place and trump. And so
16 that -- I'm getting into gray areas here as far as
17 my interpretation of the law.

18 Q. In response to some other questions
19 from Commissioner Hall, you characterized the
20 charging station as a part of the distribution
21 system; is that correct?

22 A. It's a component of plant, yes.

23 Q. And would that be true if it was
24 owned by Ameren Missouri as well as if it was owned
25 by a private entity?

1 A. It would not be part of Ameren
2 Missouri's distribution system if it was owned by a
3 private entity, but if the private entity is
4 charging for service, it would be electric plant.

5 Q. When we're talking about Ameren
6 Missouri's distribution system, Ameren Missouri
7 owns the generation facilities, it owns the
8 transmission facilities, it owns the distribution
9 facilities, and if it was allowed to implement this
10 pilot, it would also own the charging stations to
11 which electric vehicles would be hooked up; is that
12 correct?

13 A. Correct.

14 Q. But a private entity, it wouldn't own
15 any generation, it wouldn't own any transmission,
16 it wouldn't own any distribution, it would simply
17 own the charging station itself?

18 A. That's correct.

19 Q. And it would connect to the Ameren
20 Missouri distribution system at some point near the
21 charging station; would you agree?

22 A. Yes.

23 Q. Now, are you aware that DC fast-
24 chargers take electricity at alternating current
25 but convert that electricity into direct current

1 when they -- before they put it into a vehicle?

2 A. Yes. That sounds familiar.

3 Q. Does that change your

4 characterization of a privately owned charging

5 station as part of the distribution system since

6 it's not distributing alternating current

7 electricity?

8 A. As far as Ameren owned?

9 Q. No. An independently owned charging

10 station, since it's taking current from Ameren at

11 AC and selling it to a vehicle owner at direct

12 current.

13 A. I don't think so because it's -- if

14 it's not part of the distribution center or system,

15 no matter what type of charging facility it is, but

16 it's still electric plant if it's not Ameren

17 Missouri owned.

18 Q. If it's not Ameren Missouri owned,

19 it's not electric plant?

20 A. It is electric plant if electricity

21 is being sold.

22 Q. And it doesn't matter whether or not

23 the electricity that's being sold is direct current

24 or alternating current?

25 A. That's my understanding.

1 MR. MITTEN: Thank you. No further
2 questions.

3 JUDGE BUSHMANN: ChargePoint?

4 MR. COMLEY: Thank you, Judge.

5 RECROSS-EXAMINATION BY MR. COMLEY:

6 Q. Following up on some questions from
7 Chairman Hall, Ms. Dietrich, taking you back to the
8 example involving Southwest Airlines, if Southwest
9 Airlines were to embed the cost of the electricity
10 it pays to charge its customers' electric vehicles
11 at the airport, would Staff consider that to be a
12 service subject to regulation by the Commission?

13 A. When you say embeds its cost, you
14 mean like in --

15 Q. In the ticket?

16 A. In the ticket? I don't think so, no.

17 Q. Would it be subject to regulation if
18 it measured the amount of electricity that was
19 being used by the vehicle and maybe charge less
20 than Southwest's costs in providing that
21 electricity?

22 A. I know there are some cases where
23 it's been an issue as to whether they make a profit
24 or not, but I mean, that's getting into legal
25 interpretation and I'm not sure.

1 Q. Your testimony would be if Southwest
2 charged a per kilowatt hour for its Rapid Rewards
3 customers or any other customer that would be using
4 the charging station, that Southwest would be
5 subject to regulation?

6 A. Yes.

7 MR. COMLEY: That's all I have.

8 JUDGE BUSHMANN: Kansas City Power &
9 Light?

10 MR. FISCHER: Just briefly.

11 RECROSS-EXAMINATION BY MR. FISCHER:

12 Q. Ms. Dietrich, I believe in answer to
13 Chairman Hall you indicated that the Staff had
14 changed its position on how to account for the
15 revenues and costs associated with this particular
16 service, if I understood what you said, because
17 your prior position was considered to be unlawful
18 and that this was a change in position to try to
19 make it lawful; is that right?

20 A. That's correct.

21 Q. And I believe you indicated to
22 Chairman Hall that you were unaware of any
23 precedents where a similar treatment had been done
24 for services in the electric area?

25 A. That's correct.

1 Q. So, for example, when Ameren or
2 Kansas City Power & Light puts in a new
3 subdivision -- or a new substation for a new
4 subdivision, if that substation, those costs aren't
5 covered by the -- by the subdivision itself, you
6 don't impute the difference to the company so that
7 they have to eat the difference in the costs to the
8 revenues; is that right?

9 A. That's correct.

10 Q. And that would also be true on an
11 individual customer basis. If the cost of
12 extending a line to a particular house exceeds the
13 revenue you get from that house, you don't impute
14 the difference to the company and the company eat
15 that cost; is that right?

16 A. That's correct.

17 Q. And that's true throughout the
18 electric industry, isn't it? There's lots of
19 averaging that goes on, and you don't impute the
20 difference between the costs and revenues for every
21 individual line item that the utility might provide
22 to customers?

23 A. That's correct.

24 Q. And if I understood what you were
25 saying to Commissioner Hall, the reason you're

1 taking a little different position on this issue is
2 that you don't see that -- you said everybody --
3 anybody could come along and use the charging
4 station, not necessarily an Ameren customer?

5 A. That's correct. It's not dedicated
6 or used by the captive customers.

7 Q. And you didn't see a benefit to
8 Ameren customers in that situation; is that right?

9 A. I wouldn't say that we didn't --
10 there is no benefit at all. It's just it's a
11 different benefit, different type of benefit than
12 some of the scenarios you've been describing.

13 Q. For example, if one of the electric
14 vehicles was charging off peak, that usage would go
15 to fill in the valleys of the use of the system
16 during off-peak periods, that could benefit
17 everybody, right?

18 A. Right.

19 Q. Commissioner Hall also asked you
20 about eminent domain rights. Do you know, does
21 shared tenant service providers or private pay
22 telephone providers that are certificated by the
23 Commission in the telephone areas, do they have any
24 eminent domain rights?

25 A. Not that I know of.

1 MR. FISCHER: Okay. That's all I
2 have. Thank you.

3 JUDGE BUSHMANN: Division of Energy?

4 MR. ANTAL: A few, yes, sir.

5 RECROSS-EXAMINATION BY MR. ANTAL:

6 Q. Ms. Dietrich, you were discussing
7 with Chairman Hall some of the factors Staff would
8 look at in deciding whether or not the Commission
9 should exercise jurisdiction over electric vehicle
10 charging stations. And I wanted to ask you, were
11 you in the hearing room when Mr. Tim Rush took the
12 stand?

13 A. Yes.

14 Q. Do you recall me asking him some
15 questions about a Commission file No. EO-2011-0090?

16 A. Yes.

17 MR. ANTAL: Okay. I'd like to show
18 Ms. Dietrich a copy of what has been marked as
19 Exhibit 254, which has already been distributed and
20 entered into the record.

21 JUDGE BUSHMANN: Go ahead.

22 BY MR. ANTAL:

23 Q. Ms. Dietrich, if you'd familiarize
24 yourself with that document, and at your
25 convenience, please read the style of the case.

1 A. The style of the case is in the
2 matter of the application of Kansas City Power &
3 Light Company for authority to encumber certain
4 clean cities equipment.

5 Q. Okay. Thank you. Based on your
6 review of that document, is it your understanding
7 that KCP&L was seeking Commission approval of an
8 encumbrance of electric vehicle charging stations
9 it wished to purchase?

10 A. Yes.

11 Q. And is it your understanding based
12 off your review of that document that the
13 Commission found in its order and partially based
14 off Staff's recommendation that an encumbrance of
15 those electric vehicle charging stations was not
16 detrimental to the public interest?

17 A. Yes. That's what the order says.

18 Q. All right. Thank you. Moving along,
19 one of the other conversations you had with
20 Chairman Hall was in regard to the novelty of the
21 offering that Ameren Missouri is asking Commission
22 approval for, that it's not something that the
23 Commission has seen; is that correct?

24 A. I don't believe we -- I said that,
25 but --

1 Q. Okay. Maybe novelty wasn't the right
2 word. But Staff's justification for the potential
3 imputation of revenues was based off of the
4 particular nature of this offering; is that
5 correct?

6 A. I think that's a fair
7 characterization, yes.

8 Q. And that it's not that the service
9 could be used by, as you said, non-captive
10 ratepayers?

11 A. Correct.

12 Q. Okay. I'd like to pose a
13 hypothetical to you. Are you familiar with the
14 event Fair St. Louis?

15 A. No, I'm not.

16 Q. Are you familiar with the VP Fair?

17 A. Oh, yes.

18 Q. And so you'd agree with me that the
19 VP Fair or Fair St. Louis as it's sometimes -- it's
20 also referred to is a carnival or festival that
21 occurs in the City of St. Louis during the 4th of
22 July season?

23 A. That's correct.

24 Q. Okay. Is it your understanding that
25 there are vendors there selling any number of

1 trinkets, food, novelty food items during that
2 festival?

3 MS. PAYNE: I'm going to object to
4 this. This seems well outside the scope of cross.

5 MR. ANTAL: I'm laying a foundation.

6 JUDGE BUSHMANN: I'll give you a
7 little leeway.

8 THE WITNESS: It's been a long time
9 since I've been to the VP Fair, but when I went,
10 that's what they did, yes.

11 BY MR. ANTAL:

12 Q. Hypothetically, would vendors
13 providing novelty food items need electricity
14 service to provide their goods to festival goers?

15 A. I guess it depends on what type of
16 food, but there are some that would need it.

17 Q. Okay. Particularly if you're in an
18 enclosed capsule serving food during the hot July
19 season, electricity might be needed to cool that
20 facility?

21 A. That's a possibility, yes.

22 Q. Okay. And is it possible that some
23 of those vendors may not be captive -- otherwise
24 captive Ameren Missouri customers?

25 A. That's true.

1 Q. All right. Are you aware of any
2 tariff rates that Ameren Missouri has to serve
3 vendors at carnivals or festivals in its service
4 territory?

5 A. No, I'm not.

6 Q. Okay. Moving on to some questions or
7 conversations you had with Commissioner Rupp, you
8 were discussing regulation versus competition. Are
9 you aware of any instances in the past where the
10 Commission has allowed regulated competition for
11 public utility services?

12 A. That's a pretty broad question.
13 There are some issues in the telecommunications
14 industry, and some of that was driven by statute.
15 So I'm not sure if that's what you're referring to.

16 Q. If you could please elaborate on
17 that, your understanding, at least generally.

18 A. Well, for instance, in the
19 telecommunications industry, for several years they
20 were still considered regulated entities, and even
21 today to a certain degree, but there are statutes
22 that allow them to be considered competitive.

23 MR. ANTAL: Okay. Thank you very
24 much. I don't have any further questions.

25 JUDGE BUSHMANN: NRDC and Sierra

1 Club?

2 MR. ROBERTSON: No questions.

3 JUDGE BUSHMANN: Public Counsel?

4 MS. SHEMWELL: No questions. Thank
5 you.

6 JUDGE BUSHMANN: Redirect by Staff?

7 MS. PAYNE: Thank you, your Honor.

8 REDIRECT EXAMINATION BY MS. PAYNE:

9 Q. Ms. Dietrich, going back very well to
10 the beginning, Mr. Mitten and Mr. Fischer both
11 discussed Staff's evolution of its position as far
12 as the imputation. What was Staff's reasoning for
13 the imputation?

14 A. It was driven by reviewing, I believe
15 it was surrebuttal testimony of Ameren witness --
16 Ameren Missouri witness Tom Byrne and Kansas City
17 Power & Light witness Tim Rush, and specifically
18 Mr. Byrne's testimony as also an attorney that
19 Staff's position -- previous position was not
20 lawful.

21 Q. Okay. And specifically, why did
22 Staff originally take the position that it should
23 be below the line?

24 A. Because of the nature of the
25 offering, and as I've explained, since it has the

1 ability and largely serves customers that are not
2 Ameren or potentially largely serves customers that
3 are not Ameren Missouri customers, Ameren Missouri
4 ratepayers should be held harmless.

5 Q. Okay. Thank you. Now, DE's
6 attorney, Mr. Antal, asked you about the amount of
7 the subsidy that would be applied to Ameren
8 Missouri ratepayers as a result of this proposal by
9 Ameren Missouri. Do you remember that?

10 A. Yes.

11 Q. Does Staff take the position that the
12 amount of the subsidy is what is important here?

13 A. No. It's the concept.

14 Q. Okay. Now, Mr. Fischer also asked
15 you about whether Staff takes the position that
16 imputations are necessary in situations where new
17 electric service is applied to customers. Do you
18 recall that?

19 A. Yes.

20 Q. Is there a difference between that
21 and the EV proposal that Ameren is making in this
22 matter?

23 A. Yes. Again, in the various scenarios
24 that Mr. Fischer offered, those are investments
25 that directly are attributable to Ameren Missouri

1 customers and only serve Ameren Missouri customers.
2 And so -- and they benefit all Ameren Missouri
3 customers in one way or another.

4 Q. That actually leads me to my next
5 question. The Chairman was asking you about the
6 benefits to ratepayers. At this time does Staff
7 have any solid evidence that the ratepayers would
8 realize benefits as a result of that proposal?

9 A. The proposal, not only Ameren
10 Missouri pro-- Ameren -- Ameren Missouri's proposal
11 but also just the idea of electric vehicles in
12 general is new and is not something that Missouri
13 has a lot of experience with. So we don't have any
14 evidence, and even some of the evidence nationwide
15 there -- I've seen where it could be 50 years
16 before there is full penetration of electric
17 vehicles. There's been some speculation 20 years
18 for different parts of it.

19 So it's just completely new, and
20 that's one reason why we're suggesting that they
21 track and report on some of the information, so
22 that when we get to a rate case or when we -- you
23 know, when it comes up again, that there may be
24 some more documentation to help justify some of the
25 positions.

1 Q. And is that not also why Staff
2 recommended an above-the-line treatment as opposed
3 to a below-the-line treatment?

4 A. That's correct.

5 MS. PAYNE: Okay.

6 REDIRECT EXAMINATION BY MR. WILLIAMS:

7 Q. Ms. Dietrich, Nathan Williams for
8 Staff. Do you recall when Mr. Mitten propounded a
9 hypothetical to you involving costs of \$100,000 and
10 revenues of \$35,000?

11 A. Yes.

12 Q. And a net difference of \$65,000?

13 A. Yes.

14 Q. He didn't define the utility who was
15 providing that service and the circumstance where
16 that utility was only providing charging station
17 service. In that event, from whom would that
18 utility recover the \$65,000 deficit, so to speak?
19 Your rate revenues are 35,000 and your costs were
20 100,000. Where's that utility going to get the
21 other \$65,000 if its only service is providing
22 charging service?

23 A. From its shareholders.

24 Q. Are you aware of any circumstances --
25 or are you familiar with the term of cost-based

1 rates?

2 A. Yes.

3 Q. Are cost-based rates always
4 reasonable?

5 A. The standard is just and reasonable,
6 so they're presumed reasonable.

7 Q. Are you aware of any circumstances
8 where a utility has sought less than cost-based
9 rates?

10 A. Not off the top of my head, but
11 that's not to say that they haven't.

12 Q. Are you familiar with Trigen steam
13 service?

14 A. Oh, yes.

15 Q. And has Trigen sought below
16 cost-based rates?

17 A. I don't know.

18 MR. WILLIAMS: No further questions.

19 JUDGE BUSHMANN: Thank you,
20 Ms. Dietrich. That completes your testimony. You
21 may step down.

22 (Witness excused.)

23 JUDGE BUSHMANN: Why don't we call
24 the last Staff witness.

25 MS. PAYNE: Staff would call Byron

1 Murray to the stand.

2 (Witness sworn.)

3 BYRON MURRAY testified as follows:

4 DIRECT EXAMINATION BY MS. PAYNE:

5 Q. Can you please state and spell your
6 name for the court reporter?

7 A. My name is Byron Murray, B-y-r-o-n,
8 M-u-r-r-a-y.

9 Q. And, Mr. Murray, how are you employed
10 and -- I'm sorry. By whom are you employed and in
11 what capacity?

12 A. I'm employed by the Public Service
13 Commission as a regulatory economist.

14 Q. Thank you. And are you the same
15 Byron Murray who prepared rebuttal testimony
16 labeled as Staff's Exhibit 101 in this matter?

17 A. Yes.

18 Q. Do you have any changes or
19 corrections to make to that testimony at this time?

20 A. No changes.

21 Q. And the answers that you gave in that
22 testimony are true and correct to the best of your
23 knowledge?

24 A. Yes.

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

1 questions today, would you answer those questions
2 any differently?

3 A. It would be the same.

4 MS. PAYNE: Okay. Thank you. I'm
5 going to move for the admission of Staff's
6 Exhibit 101 at this time.

7 JUDGE BUSHMANN: Any objections?

8 (No response.)

9 JUDGE BUSHMANN: Hearing none, it is
10 received.

11 (STAFF EXHIBIT 101 WAS RECEIVED INTO
12 EVIDENCE.)

13 MS. PAYNE: And I tender this witness
14 for cross.

15 JUDGE BUSHMANN: First cross would be
16 Ameren Missouri.

17 MS. JOHNSON: No questions.

18 JUDGE BUSHMANN: ChargePoint?

19 MR. COMLEY: No questions.

20 JUDGE BUSHMANN: Kansas City Power &
21 Light?

22 MR. FISCHER: No, thank you, Judge.

23 JUDGE BUSHMANN: Division of Energy?

24 MR. ANTAL: Just a few.

25 CROSS-EXAMINATION BY MR. ANTAL:

1 Q. Good morning, Mr. Murray. How are
2 you?

3 A. Good morning. Doing well.

4 Q. Is it a correct characterization of
5 Staff's position in this case that it takes issue
6 with the fact that the tariff rates list both a --
7 say a time-based rate and a per kilowatt hour rate?

8 A. Yes. Staff took issue with that
9 based on the recommendations of the -- in the order
10 from the Commissioners.

11 Q. Okay. So does Staff have a
12 preference on which is preferable?

13 A. Staff's preference was that it would
14 be either one or the other, in all kilowatt hours
15 or in all dollars, just so that both are charged in
16 the same metric.

17 Q. Okay. So then is it a fair
18 characterization that Staff takes issue with the
19 company using two methodologies for charging for
20 electric vehicle charging?

21 A. We felt that it would be much easier
22 for the users of the system to know that on level 2
23 they were charged a specific amount and that it be
24 the same for level 3 so that they can understand
25 what they were being charged.

1 Q. Okay. And has Staff reviewed the
2 bill impact analysis performed by Ameren Missouri?

3 A. The bill impact as far as the amount
4 that the individual ratepayers would be required to
5 pay?

6 Q. That is correct.

7 A. Yes.

8 Q. Has Staff performed any independent
9 bill impact analysis?

10 A. No, not that I am aware of.

11 Q. Okay. And has Staff performed any
12 independent calculations of -- or analysis of the
13 calculations performed by Ameren Missouri?

14 A. Staff did review the work papers
15 provided by Ameren as far as how they developed
16 their rate.

17 Q. Okay. You didn't find any numerical
18 errors?

19 A. Not that I recall.

20 MR. ANTAL: Okay. Thank you very
21 much. I have no further questions.

22 JUDGE BUSHMANN: Sierra Club and
23 NRDC?

24 MR. ROBERTSON: No questions.

25 JUDGE BUSHMANN: Public Counsel?

1 MS. SHEMWELL: No questions. Thank
2 you, your Honor.

3 JUDGE BUSHMANN: Commissioner
4 questions?

5 CHAIRMAN HALL: Maybe just a few.
6 QUESTIONS BY CHAIRMAN HALL:

7 Q. Good morning.

8 A. Good morning, sir.

9 Q. Do you -- do you understand the
10 rationale for the -- for the two different
11 methodologies for computing rates for the DC fast-
12 charging station and the level 2 AC charge?

13 A. The NRDC and Sierra Club made
14 recommendations in their testimonies that the
15 volumetric rates be the same for any of the
16 kilowatt hours or in dollars, and their
17 recommendation was that it be based on the
18 residential amount for that jurisdiction.

19 Q. But do you understand the rationale
20 that -- that the company is using for
21 distinguishing between the two?

22 A. For level 1 and level 2?

23 Q. Well, for --

24 A. I'm sorry. Level 2 and 3.

25 Q. Yeah.

1 A. Yes, sir. Do I understand the
2 rationale?

3 Q. Right. I mean, the rationale makes
4 **sense. You're simply taking the position that**
5 **simplicity trumps that, correct, for customers?**

6 A. I would say it would be based on the
7 impact on the distribution system.

8 Q. **And now I'm lost.**

9 A. That -- what I mean by that is that
10 the two -- the two rates should be reflective of
11 the impact on the distribution system. Level 2
12 charging is not as impactful in the system as
13 level 3 charging and DC fast-charging. It's going
14 to be more of an impact on the distribution system.

15 Q. **It was my understanding that the**
16 **rationale for the two different methodologies had**
17 **to do with -- well, has to do with the fact that**
18 **the faster vehicle charging level, all EV models**
19 **fill their batteries at roughly the same.**

20 A. As I've understood it, sir, it's
21 based on the ability of the individual car in that
22 the onboard converter is what actually controls the
23 amount of -- or the speed at which it will charge.

24 Q. **And that's different than a level 2**
25 **charger --**

1 A. I would --

2 Q. -- where there are some that charge a
3 lot faster than others?

4 A. Yes. A level 2 charger is going to
5 take several hours, two to three hours. A level 3
6 charger can reach 80 percent in about half an hour.

7 Q. But on a level 2 there's going to be
8 a wide variety for vehicles?

9 A. As far as the ability to use the
10 charging station.

11 Q. Well, the ability to charge quickly.
12 Some vehicles are going to take longer than others?

13 A. Yes.

14 Q. And so my understanding of the
15 company's position, which it adopted based upon
16 Sierra Club and NRDC, is that that would be unfair
17 to charge per minute when some vehicles by their
18 very nature take longer than others to charge?

19 A. Yes, sir, that is correct.

20 Q. And so Staff understands that
21 rationale, correct?

22 A. Yes.

23 Q. But it's your position that it is
24 more important -- it is Staff's position that it is
25 more important there be simplicity for customers

1 **than taking into account that rationale?**

2 A. Staff's perspective on that was that
3 the -- either the -- either it be advertised in a
4 per kilowatt hour or in a per minute, but we're not
5 saying that one level is -- is different.
6 According to the information provided by NRDC and
7 Sierra Club, the vehicles would actually control
8 the rate of charging as far as how fast it can
9 charge.

10 **Q. What is the basis for the Staff's**
11 **view that having two different methodologies for**
12 **charging ratepayers would cause confusion?**

13 A. We viewed it as charging per minute
14 is going to allow for a more accurate charging,
15 more accurate cost as far as the individual billing
16 for the charging service. Charging on a per-hour
17 basis would have been more impactful on the
18 individual using the system. So it's going to be a
19 more accurate calculation of the electricity
20 consumed at a per-minute basis.

21 CHAIRMAN HALL: Okay. I have no
22 further questions. Thank you.

23 JUDGE BUSHMANN: Recross based on
24 Bench questions, Ameren Missouri?

25 MR. MITTEN: No questions.

1 JUDGE BUSHMANN: ChargePoint?

2 MR. COMLEY: No questions.

3 JUDGE BUSHMANN: Kansas City Power &
4 Light?

5 MR. FISCHER: No, thank you.

6 JUDGE BUSHMANN: Division of Energy?

7 MR. ANTAL: No questions. Thank you.

8 JUDGE BUSHMANN: Sierra Club and
9 NRDC?

10 MR. ROBERTSON: Let me try a couple.

11 RECROSS-EXAMINATION BY MR. ROBERTSON:

12 Q. Your understanding is that it's
13 fairer to the AC level 2 charging customers to
14 charge them by the kilowatt hour because it takes
15 such an inordinately long time for them to fully
16 recharge; is that right?

17 A. The Staff didn't take that position.
18 Staff took the position that they should be charged
19 on the same metric in kilowatt hours or in minutes.

20 Q. But the position of the company and
21 Sierra Club and NRDC is that it's fairer to charge
22 by the kilowatt hours for the AC charging
23 customers?

24 A. As I understood the information they
25 presented, they stated that it was more fair to

1 charge by the minute than by the hour because the
2 vehicle controls the level of charging.

3 Q. Well, and when it comes to the DC
4 fast chargers, is it your understanding or the
5 company's position is that it's fair to charge them
6 by the minute or the hour because they -- that will
7 prevent the customer from overstaying after they
8 fully charge the car and they're off shopping in
9 the neighborhood or something like that and they're
10 taking up that charging station without actually
11 being in the process of charging; is that fair?

12 A. Could you restate that one more time,
13 please?

14 Q. Yeah. It was terrible wording. Is
15 it the company's position that it is fair to charge
16 a time-based charge for the DC fast-chargers to
17 prevent those drivers from overstaying their time
18 at the charging station?

19 A. I don't -- I don't think that the --
20 that there's the distinction between the time-based
21 charge and kilowatt hours. I don't think it's --
22 as far as Staff's position and their perspective of
23 it, it's not as relevant because of the fact that
24 you're going to pretty much use the same amount of
25 electricity. It's going to take a longer time to

1 do it on level 2 compared to a level 3.

2 MR. ROBERTSON: No further questions.

3 JUDGE BUSHMANN: Public Counsel?

4 MS. SHEMWELL: No questions. Thank
5 you.

6 JUDGE BUSHMANN: Redirect by Staff?

7 MS. PAYNE: No questions. Thank you.

8 JUDGE BUSHMANN: Thank you,
9 Mr. Murray. That completes your testimony.

10 THE WITNESS: Thank you.

11 (Witness excused.)

12 JUDGE BUSHMANN: Why don't we go
13 ahead and take one more before break. We're now to
14 the Division of Energy witnesses.

15 MR. ANTAL: Judge, Mr. Tinsley is
16 present, but if there's no objection from any of
17 the other parties, we'd ask to take Mr. Hyman
18 first.

19 JUDGE BUSHMANN: Any objection to the
20 changing of the order of the witnesses?

21 (No response.)

22 JUDGE BUSHMANN: Hearing none, that
23 will be fine.

24 MR. ANTAL: Division of Energy calls
25 Martin Hyman.

1 (Witness sworn.)

2 MARTIN HYMAN testified as follows:

3 DIRECT EXAMINATION BY MR. ANTAL:

4 Q. Mr. Hyman, please state your full
5 name and spell it for the court reporter.

6 A. Martin Hyman, M-a-r-t-i-n, H-y-m-a-n.

7 Q. Mr. Hyman, where are you employed and
8 in what capacity?

9 A. I'm employed as a Planner 3 Energy
10 Policy Analyst by the Missouri Department of
11 Economic Development, Division of Energy.

12 Q. And are you the same Martin Hyman who
13 filed rebuttal and surrebuttal in this case marked
14 as Exhibit 250 and 251?

15 A. Yes.

16 Q. Do you have any corrections to those
17 exhibits?

18 A. A few clarifying edits. On my
19 rebuttal testimony, on page 2, lines 21 and 22, and
20 let me turn to that page. So line 21, delete the
21 word fully allocated, and then line 22, delete the
22 word incremental.

23 And then in my surrebuttal, similarly
24 on page 3, lines 13 through 15 --

25 MS. SHEMWELL: I'm sorry. What was

1 that reference?

2 THE WITNESS: Which one? The next
3 one is surrebuttal. Page 3, lines 13 through 15.
4 13 through 14 take out fully allocated, and then 15
5 take out incremental. And that's it.

6 BY MR. ANTAL:

7 Q. Taking those corrections into
8 consideration, if I were to ask you the same
9 questions today, would your answers be
10 substantially the same?

11 A. Yes.

12 Q. Are your answers to these questions
13 honest and accurate to the best of your knowledge
14 and belief?

15 A. Yes.

16 MR. ANTAL: Judge, I'd like to move
17 for admission of Exhibits 250 and 251 into the
18 record.

19 JUDGE BUSHMANN: Any objections?

20 (No response.)

21 JUDGE BUSHMANN: Hearing none,
22 they're received.

23 (DED EXHIBITS 250 AND 251 WERE
24 RECEIVED INTO EVIDENCE.)

25 MR. ANTAL: I tender the witness for

1 cross-examination.

2 JUDGE BUSHMANN: First cross would be
3 Ameren Missouri.

4 MS. JOHNSON: No questions.

5 JUDGE BUSHMANN: Commission Staff?

6 MS. PAYNE: No questions.

7 JUDGE BUSHMANN: ChargePoint?

8 MR. COMLEY: Thank you, Judge.

9 CROSS-EXAMINATION BY MR. COMLEY:

10 Q. Mr. Hyman, if I could direct you to
11 page 4 of your rebuttal testimony.

12 A. Yes, sir. Specifically which lines,
13 if I may ask?

14 Q. Yes, of course. On line 6 on page 4
15 you say, No evidence has been presented that there
16 is, in fact, a competitive market that can
17 effectively discipline the rates charged for EV
18 charging.

19 Let me ask you, do you know that
20 third parties are offering charging service?

21 A. Where are you speaking of
22 specifically?

23 Q. Do you know that third parties are
24 offering charging service?

25 A. I know generally that they're

1 offering it. Not necessarily in every area.

2 Q. So you do know that in the state,
3 nonpublic utilities are offering charging services;
4 would that be a fair statement?

5 A. I would say that entities which are
6 not currently considered public utilities are in
7 some areas offering charging services.

8 Q. Would you agree that there is a spark
9 of competition?

10 A. Well, in some areas.

11 Q. In your testimony on page 4, you
12 refer to two data requests that the Division of
13 Energy asked ChargePoint, and with respect to
14 those, did you rely on those data request responses
15 in your statements on page 4? I think your
16 statement is, EV charging service deployment is not
17 yet widespread along the route proposed by Ameren
18 Missouri. ChargePoint, an EVCS provider, has no
19 customers with publicly accessible EVCSs between
20 Columbia and the St. Louis metropolitan area.

21 Was the data request the source of
22 that statement?

23 A. For the ChargePoint statement, yes.

24 Q. Going down to lines 15 and 16 of your
25 rebuttal -- excuse me -- line 14 through 16, you

1 footnote the statement there with a reference to a
2 ChargePoint data request; is that correct?

3 A. Yes.

4 Q. And again, was the response given to
5 you by ChargePoint the basis for your statement?

6 A. Yes.

7 MR. COMLEY: Your Honor, I'd like to
8 have the witness identify two exhibits.

9 JUDGE BUSHMANN: Go ahead.

10 MR. COMLEY: May I approach the
11 witness?

12 JUDGE BUSHMANN: You may.

13 (CHARGEPOINT EXHIBITS 303 AND 304
14 WERE MARKED FOR IDENTIFICATION.)

15 BY MR. COMLEY:

16 Q. Mr. Hyman, I've handed you what's
17 been marked -- premarked by me as Exhibits 303 and
18 304. Are you able to identify those exhibits for
19 the Commission, please?

20 A. Yes. They appear to be responses to
21 data requests which we sent to ChargePoint.

22 Q. All right.

23 A. Al right. And that would be Data
24 Request 200 and Data Request 600?

25 A. Yes, although I would note that Data

1 Request 600 was by Mr. Tinsley.

2 Q. But to confirm, in your own testimony
3 you relied on the answers in those data requests
4 for the purpose of your testimony; isn't that
5 correct?

6 A. Yes. Specifically -- yes. Yes.

7 MR. COMLEY: Your Honor, I'd like to
8 offer into evidence ChargePoint's responses to the
9 data requests that were submitted by the Division
10 of Energy. They have been marked as Exhibits 303
11 and 304.

12 JUDGE BUSHMANN: Do you have any
13 extra copies?

14 MR. COMLEY: I do. I do. I will
15 hand them out.

16 JUDGE BUSHMANN: I'd like to see them
17 before. Counsel should look at them.

18 MR. ANTAL: Your Honor, this may have
19 just been an error of counsel, but I've just been
20 handed two copies of Exhibit 304 and no copy of
21 303.

22 MR. COMLEY: Oh, okay.

23 JUDGE BUSHMANN: Have you had an
24 opportunity to review those documents and, if so,
25 any objections to their receipt?

1 MR. ANTAL: No objection here.

2 JUDGE BUSHMANN: Not hearing any
3 objections. In that case, I'll let them in. They
4 are received into the record.

5 (CHARGEPOINT EXHIBITS 303 AND 304
6 WERE RECEIVED INTO EVIDENCE.)

7 MR. COMLEY: Thank you, Judge.

8 BY MR. COMLEY:

9 Q. Oh, on -- also page 4 of your
10 rebuttal, Mr. Hyman, if I can direct you to, again,
11 lines 14 through 16, you say that the majority of
12 the publicly accessible ChargePoint electric
13 vehicle charging stations along the proposed
14 corridor do not require a payment to use them.

15 Let me ask you this: Are you -- is
16 the Division of Energy suggesting that those people
17 receiving a charging service for free should be
18 charged a fee?

19 A. That was not the intention of my
20 statement.

21 Q. But you would agree that the person
22 or the site host that owns the charging station
23 made a conscious decision on not charging customers
24 for that service?

25 MR. ANTAL: Objection. Calls for

1 speculation.

2 JUDGE BUSHMANN: Do you want to
3 respond to that?

4 MR. COMLEY: Well, I'll rephrase the
5 question.

6 BY MR. COMLEY:

7 Q. When an owner makes decisions about a
8 charge, isn't there a mental process going on when
9 that decision is made?

10 MR. ANTAL: Objection. Calls for --
11 assumes facts not in evidence.

12 JUDGE BUSHMANN: Overruled. You may
13 answer, if you can.

14 THE WITNESS: I'm afraid I can't
15 speak for the mental processes of other people.

16 BY MR. COMLEY:

17 Q. What's your background in economy --
18 in economics, Mr. Hyman?

19 A. I've had some economics courses, yes.

20 Q. Have you had experience with how the
21 market works and how economic decisions are made by
22 market users?

23 A. I have on the principles, yes.

24 Q. And you've already testified that the
25 market is not able to discipline the rate; is that

1 correct?

2 A. I have.

3 Q. So is there any discipline right now
4 by charging service -- or rather charging station
5 owners in setting the rate?

6 A. Well, it goes back to my earlier
7 answer, which is it depends on the area.

8 Q. So in certain areas you're saying
9 that charging station owners are disciplining their
10 rate?

11 A. It is certainly possible to the
12 extent there is a competitive market in those
13 areas.

14 Q. Would it be your position that
15 non-utilities that provide a charging service to
16 the public, whether for free or for a specified
17 charge, should be subject to rate regulation by the
18 Commission?

19 A. I'm not an attorney, sir, so I can't
20 make that call.

21 Q. Is it your position?

22 A. We don't have a position as to that
23 at this point, and that would require me to be an
24 attorney, I'm afraid.

25 Q. So the Division has not instructed

1 you on the position to take?

2 A. We just don't have a position on that
3 at this point.

4 Q. Could you visualize a situation in a
5 market for charging station services where an owner
6 may want to offer a charging service below its
7 cost?

8 A. I can imagine a scenario where they
9 might want to do that, sure.

10 Q. What would be the benefit of doing
11 that?

12 A. The benefit of -- well, I can't speak
13 for everybody, but hypothetically, the benefit of
14 doing so, if you're not saying an Ameren Missouri
15 but you're more like a Target would be that you can
16 draw in customers to your store.

17 Q. Could you see a benefit of a store
18 like Target offering a charging service for free?

19 A. To the extent that this is allowed, I
20 could see the benefit.

21 Q. For my next question I'm going to ask
22 you to assume that there an emerging competitive
23 vehicle charging markets getting a foothold in
24 Missouri. Would it be your position and that of
25 the Division of Energy that the Commission should

1 not enter a decision here that would interfere or
2 impair the growth of competition in this service?

3 A. Under that hypothetical, and assuming
4 that there could be a decision that would be
5 adverse, I would certainly advise against a
6 decision that would be adverse in that regard.

7 Q. In fairness, the Division of Energy
8 does not want to have a competitive market
9 destroyed or impaired as a consequence of this
10 decision; would that be fair?

11 A. We are open to having a competitive
12 market here, subject to applicable laws and
13 tariffs.

14 MR. COMLEY: Very good. That's all I
15 have. Thank you.

16 JUDGE BUSHMANN: Kansas City Power &
17 Light.

18 CROSS-EXAMINATION BY MR. FISCHER:

19 Q. Mr. Hyman, I direct you to your
20 surrebuttal testimony on page 2, beginning on
21 line 13.

22 A. Uh-huh. Yes, sir.

23 Q. There I believe you indicate that the
24 Division of Energy opposes the Staff and OPC's
25 position that Ameren Missouri's investment in these

1 charging stations not be included in rate base?

2 A. Yes. Our position is that they
3 should be included in rate base.

4 Q. And you go on to say on line 16,
5 failure to include the EVCSs in rate base could
6 diminish the company's incentive to pursue those
7 investments; is that right?

8 A. Yes. And we've actually seen
9 something like this happen in Kansas, where the
10 Kansas Corporation Commission said, no, you can't
11 rate base these, and my understanding is KCPL
12 ceased further installation of stations for a while
13 in Kansas.

14 Q. Did you also -- were you in the
15 hearing room when Mr. Byrne expressed the concern
16 about that?

17 A. Yes, I was.

18 Q. Would you explain why you think that
19 the failure to include those in rate base would
20 diminish the company's incentive to make those
21 investments?

22 A. Well, utilities serve the public, but
23 they also have to provide -- provide their
24 shareholders with a fair opportunity to get a rate
25 of return. And to the extent that those charging

1 services are not included in rate base, they are
2 not only not regulated but also do not receive that
3 ability to earn the rate of returns that other
4 regulated assets would. And so there would be less
5 incentives, I would think, for a utility to install
6 something like that.

7 Q. You go on then on line 17 to say,
8 their inclusion in rate base also does not mean
9 that inequitable subsidization of EVCSS would
10 occur. Do you see that?

11 A. Yes.

12 Q. Would you explain why you have that
13 opinion?

14 A. Well, I think the word subsidies and
15 subsidization has been thrown around a lot in this
16 hearing and some other proceedings that I've been
17 in, and I don't think that just because something
18 is included that does not initially recoup all of
19 its cost, I don't think that that means that there
20 is going to be a subsidy.

21 The question with the subsidy is --
22 in the case of a utility, is somebody paying for
23 that service below the incremental cost of that
24 service while someone else pays above the fully
25 allocated cost of another service. And unless that

1 can be shown, there is not, in the sense of utility
2 regulation, a subsidy.

3 Q. If a customer covers the incremental
4 cost or what are sometimes called variable costs
5 that make a contribution to the fixed cost of the
6 system, do you consider that a subsidy?

7 A. No. That's precisely what I was
8 talking about.

9 Q. Then you go on to suggest that their
10 inclusion in rate base does not mean that
11 competition in the EV charging market would be
12 stifled. Do you see that?

13 A. Yes.

14 Q. Why do you hold that opinion?

15 A. Well, there are a few reasons. I
16 think I talk about this in my testimony at some
17 point. The first reason is that, subject to
18 applicable laws and regulations and Commission
19 decisions about who we do and don't regulate,
20 people can still offer these services.

21 You can have what my counsel is
22 referring to as regulated competition. We've seen
23 this before in the telecom industry granted under
24 different statutory structures, but there's
25 actually a Commission decision from like 2001 or so

1 saying that incumbent local exchange providers --
2 sorry -- not incumbent -- competitive local
3 exchange providers could basically charge up to the
4 rate of the incumbent local exchange provider. So
5 that's part of it.

6 And the other reason is that
7 competition could still be quite healthy to the
8 extent that the utility has to charge a higher rate
9 than say a Target or someone else would have to
10 charge.

11 **Q. Does the Division of Energy believe**
12 **that a public utility like Ameren or Kansas City**
13 **Power & Light should be involved in the EV charging**
14 **market in Missouri?**

15 **A.** In the right circumstances, yes. And
16 I think this is one of those circumstances where
17 you do not have charging stations in the corridor
18 between the Columbia area and the St. Louis area.
19 That is where I think utilities can serve a vital
20 role in serving what we consider to be an essential
21 service and moving the market along.

22 **Q. Do you have an opinion about whether,**
23 **if public utilities in this state do not**
24 **participate in that electric vehicle charging**
25 **station market, if they don't participate will a**

1 competitive market be likely to develop in the near
2 term?

3 A. I think it depends on the area, but
4 in certain areas such as the more rural areas or
5 along these traffic corridors, I think competition
6 will certainly be slower to develop.

7 MR. COMLEY: That's all I have.
8 Thank you, Judge.

9 JUDGE BUSHMANN: Sierra Club and
10 NRDC?

11 CROSS-EXAMINATION BY MR. ROBERTSON:

12 Q. May I direct you to Exhibit 304?

13 A. Yes, sir.

14 Q. That is a -- ChargePoint's response
15 to a Division of Energy data request, right?

16 A. Yes, sir.

17 Q. And on page 1, second paragraph above
18 the box it says, There are no ChargePoint customers
19 in Missouri that are charging drivers a per
20 kilowatt hour fee for energy consumption; is that
21 right?

22 A. Yes.

23 Q. And there's a box at the bottom of
24 page 1 over to the top of page 2 which gives the
25 charging fees by ChargePoint customers, and Lou

1 Fusz Motor Company at the bottom of page 1, that is
2 a charge procession, right?

3 A. So first I would say thank you for
4 teaching me how to pronounce that, but yes.

5 Q. It's not Fuzz. It's Fusz. Subjected
6 to their commercials for years.

7 And the other five are priced by the
8 hour; is that right?

9 A. Yeah, looks like.

10 Q. And the hourly charges range from \$5
11 at St. Charles Nissan to \$1 per hour at Laurel
12 Apartments; is that right?

13 A. Yes. That's right.

14 Q. To you, is that indicative of the
15 market disciplining the price?

16 A. I mean, in a market that was
17 approaching -- approaching real competition, you
18 would have fairly uniform prices. So I don't think
19 you see that here, no.

20 MR. ROBERTSON: Thank you. No more
21 questions.

22 JUDGE BUSHMANN: Public Counsel?

23 MS. SHEMWELL: Thank you.

24 CROSS-EXAMINATION BY MS. SHEMWELL:

25 Q. Good morning, Mr. Hyman. I'm Lera

1 Shemwell. If you would please turn to page 2.

2 A. Of which testimony?

3 Q. Your rebuttal.

4 A. Thank you.

5 Q. Lines 11 through 17.

6 A. Yes.

7 Q. And you testify there that the EV
8 charging stations will facilitate the charging of
9 EVs, increasing the number of customers and amount
10 of energy consumed on the company's system,
11 correct?

12 A. Yes.

13 Q. This is a load-building program?

14 A. I guess could you define what you
15 mean by load-building program?

16 Q. Increasing the amount of energy
17 consumed on the company's system.

18 A. To that extent, yes.

19 Q. Do you have a different definition
20 for load-building program?

21 A. That would be the one that I am
22 generally familiar with.

23 Q. Are you testifying that increasing
24 consumption is a good thing?

25 A. It depends on the circumstance.

1 Q. And those circumstances?

2 A. If you're increasing consumption in,
3 say, off-peak periods to spread fixed cost
4 recovery, yes. If you're increasing consumption
5 for uses where you don't need to increase
6 consumption, for example, things that you're
7 targeting under the Missouri Energy Efficiency
8 Investment Act, MEEIA, then that's not an
9 appropriate place for load building. In fact,
10 that's an appropriate place for reducing load in
11 terms of reducing use or shifting demand to off-
12 peak periods.

13 Q. You're aware that Public Counsel
14 supports the time of use rate, that Ameren adopt a
15 time of use rate to encourage EV chargings at
16 night -- or let me rephrase -- during off-peak
17 periods?

18 A. Can you point me to where in
19 testimony you have that? I'm not saying I
20 disagree. I'm just --

21 Q. Well, I certainly told the Commission
22 that that was Public Counsel's position. Is that
23 sufficient for you?

24 A. Sufficient, yes.

25 Q. So you agree that that is the

1 position Public Counsel has taken?

2 A. Yes.

3 Q. And you're agreeing with that, that
4 off-peak charging is beneficial to customers?

5 A. Yes.

6 Q. On page 3 of your rebuttal on
7 line 15 --

8 A. Yes.

9 Q. -- you say that absent Commission
10 regulation of the rates, the company would be able
11 to charge -- I skipped a level over -- above cost-
12 based rates to customers in Missouri who have few
13 other options, correct?

14 A. Yes.

15 Q. Were you here for Mr. Byrne's
16 testimony?

17 A. I was.

18 Q. And he testified that 100 percent of
19 EV customers charge at home; would you agree?

20 A. No. Oh, that 100 -- sorry. I
21 misunderstood. Yes, that 100 percent of those who
22 have personal vehicles charge at home, yes.

23 Q. Is the rate proposed by DE a
24 cost-based rate?

25 A. We're not proposing a rate.

1 **Q. Is the rate that's in Ameren's tariff**
2 **a cost-based rate?**

3 A. I believe so, yes.

4 **Q. Is it DE's position to support**
5 **deployment of compressed natural gas stations**
6 **throughout Spire's territory?**

7 A. We certainly look for diversification
8 of transportation fuel options, so I think we
9 probably would support that as well if it was
10 proposed and subject to the circumstances of the
11 case. But as a general principle, yes.

12 **Q. Do you agree that the State's policy**
13 **is to promote a wide variety of alternate fuels?**

14 A. Yes. That's in the Comprehensive
15 State Energy Plan. It's recommendation 3.

16 **Q. And the other types of fuels include**
17 **bio fuels, for example?**

18 A. It includes a wide variety of fuels,
19 yes.

20 **Q. Do you know those?**

21 A. Well, there are a lot of options
22 these days. There's electricity. There's
23 compressed natural gas. There is liquid natural
24 gas, bio diesel, ethanol, and those come in various
25 blends. Hydrogen, although I'm not entirely sure

1 how widespread or existent that is in the state.

2 Fuel cells, which really are sort of another form
3 of battery. Electric vehicle.

4 So there are a lot of different types
5 of transportation options that could feasibly --
6 that could feasibly be supported depending on the
7 circumstances.

8 Q. And these are vehicle fuel options?

9 A. They are.

10 Q. One moment, please. Mr. Hyman, do
11 you have any examples where a government-set price
12 actually encouraged market competition?

13 A. If you give me a moment.

14 Q. Certainly.

15 A. Yes, actually. I was discussing
16 earlier with counsel for KCPL about telecom. And
17 in telecom, of course, it was at first vertically
18 integrated, heavily regulated like what we have
19 with electric utilities. But we started moving
20 partly by law and partly by regulatory processes
21 toward a competitive market. And you had then what
22 you call the incumbent and the competitors.

23 And in -- as I referenced, there was
24 I think a 2001 Commission order where they set the
25 price at a certain max for the competitive exchange

1 providers at basically the cost of the incumbent's
2 fully allocated service. So that's an example
3 actually where government regulation did help with
4 the development of competition.

5 **Q. That was a max number, though, right,**
6 **not necessarily the rate that the company could**
7 **charge?**

8 A. Well, it was the rate the company
9 could charge in the sense that it was based on the
10 incumbent's rate as the maximum. For the
11 competitors it was more variable and could go up to
12 that rate.

13 **Q. So they could charge below that rate?**

14 A. They could, yes.

15 MS. SHEMWELL: That's all I have.

16 Thank you.

17 JUDGE BUSHMANN: Questions from the
18 Commissioners?

19 QUESTIONS BY CHAIRMAN HALL:

20 **Q. Good morning.**

21 A. Good morning.

22 **Q. Is it safe to say that the Division's**
23 **long-term goal for charging stations would be a**
24 **competitive market?**

25 A. Oh, yes, absolutely.

1 Q. And it's my understanding that where
2 there is a competitive market, the Division would
3 not necessarily support regulating charging
4 stations?

5 A. I don't know if that's necessarily
6 the case. I mean, that would be something we'd
7 have to discuss a bit more internally, but I
8 don't -- I would say that I don't necessarily see
9 regulation and competition as mutually exclusive.

10 Q. Well, I mean, where there -- where
11 there is no market, the Division supports
12 regulation. Where there is a competitive market,
13 you -- as you sit here today, you don't have a
14 position on it?

15 A. Well, I think we would support a
16 certain type -- different types of regulation, and
17 I think in general what we would like to see is
18 some way to facilitate competition, not just by
19 having utilities start up some of these markets
20 where they don't exist, but allowing for
21 competition through looking at those tariffs we
22 were talking about on the first day of hearing and
23 any applicable laws and figuring out how exactly we
24 would regulate some of those.

25 Q. Would it be possible through improper

1 regulation to stifle competition?

2 A. That's always a danger.

3 Q. And -- but you don't believe that the
4 particular tariff at issue here in any way would
5 stifle competition?

6 A. No, I don't. If you look at -- it is
7 actually Exhibit 304. I don't know if you have a
8 copy of that. But it looks like the maximum charge
9 per hour that ChargePoint has is 5 bucks. Now, if
10 you compare that to Ameren's revised tariff, their
11 revised tariff, once you multiply number of minutes
12 by minutes of an hour, basically works out to
13 \$10.20.

14 So even right now, there are folks
15 who can offer lower rates than Ameren. So I don't
16 see an issue with stifling competition when Ameren
17 is charging a higher rate.

18 Q. Well, I thought that your -- the
19 focus was the geographic area and whether or not
20 there is a market in place there or not, and that
21 was the most significant component of your position
22 as to where regulation should exist and where it
23 might not be appropriate. No?

24 A. That's part of it. I agree that -- I
25 think that's an important consideration when you're

1 looking at should the utility be offering this
2 service. But I think that in general we should be
3 facilitating competition through, for example,
4 looking at some of these rules that these companies
5 have, the possibility of setting up a wholesale
6 rate where the providers could take the electricity
7 at a rate lower than the retail rate and then in
8 some way perhaps, for example, as in the telecom
9 example, be allowed to charge up to a certain
10 amount.

11 Q. So you indicate that it is a concern
12 that some type of regulation could stifle
13 competition?

14 A. That's always a danger. I don't know
15 that it rises to a concern at this point.

16 Q. I'm not going to spend a lot of time
17 trying to distinguish a danger from a concern, so
18 we can move on. But is it safe to say that
19 Ameren's charging stations are -- or the -- this
20 particular program involves ratepayers covering
21 certain costs of those charging stations at least
22 in the short term?

23 A. In the short term, I think so, yes.

24 Q. So in the short term, does that
25 stifle competition or is there a danger or a

1 concern that it could stifle competition?

2 A. I don't think so given that there are
3 geographic areas, such as between Columbia and
4 St. Louis, where there just aren't any fast-
5 charging stations. So, if anything, you're
6 starting to create the market.

7 Q. But if I am an entrepreneur and I'm
8 considering putting a charging station in place and
9 I'm going to try to cover all my costs from
10 revenues, aren't I going to be concerned where --
11 if there are charging stations in place that are
12 charging below cost?

13 A. If you're thinking about that, sure,
14 but I haven't seen evidence that somebody has
15 definitively said, yes, I'm going to put this in;
16 oh, wait, Ameren's putting it in.

17 Q. Let me ask you this: ChargePoint had
18 a witness, Ms. Smart I believe was her name --

19 A. Yes.

20 Q. -- who talked about the market a
21 little differently than how I had conceived of it,
22 that the market is not really EV drivers per se.
23 It's really more individuals or companies who are
24 building or constructing EV stations. Is that --
25 do you understand that distinction? Because it was

1 kind of new to me.

2 A. Yeah. I think it's sort of talking
3 about two markets that are intertwined, but they
4 are kind of separate in the sense that there's the
5 market in which people are charged for using the
6 charging stations and then there's the market for
7 manufacture of them, the distribution of them, et
8 cetera, just like you have markets for other types
9 of electric.

10 Q. So if there is a concern about
11 stifling competition, which of those two markets
12 should we be most concerned about from your
13 perspective?

14 A. I think -- I'm not entirely sure, to
15 be honest. I would say that to the extent one can
16 promote competition in both of those markets, it's
17 good. I think one has to look at the specific
18 circumstances to see to what extent one can.

19 When you're looking at a small pilot
20 project like this with six charging stations, I
21 don't think it's very easy to promote competition
22 in vendors because that would -- that would, I
23 would assume, start to raise some of the
24 administrative costs if you allowed people to have
25 one vendor in St. Louis, one vendor in Columbia,

1 one vendor in Wentzville. And then you would also
2 probably have some issues with networking stations,
3 I would think.

4 Q. Well, this is kind of how I'm viewing
5 it, and I want you to tell me if that makes sense
6 to you. Okay? It may be a difference between
7 short term and long term, that in the short term
8 the market that we should be more concerned about
9 is the market for vendors, the market for the
10 construction of these EV charging stations, but in
11 the long term, the long-term goal should be a
12 competitive market for actually the users.

13 A. I think that's the long-term both in
14 both cases personally, that one would want to see,
15 to the extent it's allowable and can be done,
16 competition in both markets. I think the question
17 boils down to, in this case, what can we do in the
18 short run?

19 Q. Do you think in the short run if you
20 have Ameren constructing EV stations at, let's say,
21 gas stations or rest stops, that that -- for
22 essentially free to that gas station or to the
23 owner of the land where the charging station is
24 going at no cost to them, that that might have an
25 effect on the market for, say, ChargePoint or other

1 Q. So following up on your telecom
2 example of how the maximum rate was set and it
3 spurred competition because other parties could
4 provide it and still make a profit at a lower
5 price, and I believe I heard you state to the
6 Chairman that that is a scenario which the Division
7 of Energy would welcome in the vehicle charging
8 space?

9 A. It's definitely one that we've looked
10 at as a good possibility for how one could
11 structure the market in that sort of transition
12 between monopoly and competition.

13 Q. So if your focus is geographic region
14 and let's say I want to put a charging station in
15 New Florence, Missouri on Highway 70 between
16 Wentzville and Columbia, but there is not enough
17 projections of use in order to recoup my cost if I
18 have a cap on a price that I can charge and the
19 incumbent Ameren chooses not to build one in that
20 area, would that price cap deter someone from
21 offering a vehicle charging station there due to
22 the remote location and the infrequent use?

23 A. I think so. Under that circumstance,
24 you could have a deterrent to competition. And
25 that really sort of to me highlights why utilities

1 can play a role in some of these areas in terms of
2 building out the infrastructure at a reasonable
3 cost.

4 Q. So in your -- Division of Energy's
5 viewpoint, so would anything bar a landowner in
6 New Florence who wants to put up a charging station
7 to establish multiple solar panels and windmills
8 and then providing the electricity that's generated
9 from those to vehicle charging stations?

10 A. So in the context of the EW working
11 docket, that was actually something that we tossed
12 around was, what if something was basically their
13 own system? And I think the question -- and I am
14 not an attorney and I will caution that, but I
15 think the question as I understand it comes back
16 to, are they offering electricity for sale to the
17 general public?

18 And if that's the case, even if they
19 have their own solar panels, I don't think that --
20 I think the solar panels don't make a difference in
21 that case.

22 Q. So it would -- so Division of Energy
23 would say that would be a possible scenario that
24 would be allowed in a market competition sector?

25 A. I think so. I think there will

1 probably still be regulation there, but yeah,
2 that's certainly something someone could try to do
3 is set up their own little micro grid.

4 Q. So there's no -- even though the
5 tariff language and, according to the Staff, the
6 statutes say that you cannot resell electricity,
7 would there be a distinction made for vehicle
8 charging stations that are purchasing from Ameren
9 versus someone that wants to create their own micro
10 grid and then offer it?

11 A. There is, but I think it's kind of
12 different questions, to be honest. I think the one
13 question is the purchase from the utility of what
14 they are generating and then offering that for sale
15 to the general public. And then the other, you're
16 still talking about offering for sale to the
17 general public but you're not purchasing from the
18 utility.

19 So the circumstances are different,
20 but you're still left fundamentally with the same
21 question, which is are they selling electricity to
22 the general public?

23 Q. So from a policy perspective, the
24 Division of Energy is comfortable with the third
25 party selling of electric to the public?

1 A. I think in principle, yeah. I don't
2 think we fully examined how -- the exact regulatory
3 circumstances that would need to be applied. But I
4 think subject to some sort of discussion about how
5 those would be regulated, yeah, we're definitely
6 interested in seeing competition in various forms.

7 Q. So how do I separate, other than
8 saying vehicle charging, from going from the
9 current regulatory process we have of regulating
10 electricity to allowing third parties to provide
11 electric service to consumers? Is it just because
12 the Commission is using the words electric vehicle
13 charging?

14 A. No. I think fundamentally saying
15 electric vehicle charging -- I hesitate to say
16 this -- masks the fact that ultimately you're still
17 providing electric service. And the question here
18 is whether or not someone can provide this
19 particular type of electric service outside of
20 being the investor-owned utility, and I think
21 that's where the discussion has to happen in terms
22 of how we make that transition in this particular
23 market.

24 Q. How does this not walk us down the
25 path to an unregulated electric system in the state

1 of Missouri?

2 A. That has crossed my mind. I still --
3 well, part of that is that, by law, I think we are
4 pretty much in vertically integrated systems.
5 That's not to say someone couldn't become their own
6 system, but at that point I think they would be
7 subject to regulation.

8 So I don't necessarily see this as
9 matter of deregulation, but taken broadly, I see it
10 as looking at a particular market where there is a
11 potential for moving towards competition with some
12 regulation.

13 Q. Do you think the 2001 order in
14 telecom created market deregulation in telecom in
15 the state?

16 A. I would assume that it didn't --
17 while it didn't create it, it certainly facilitated
18 it under very specific regulatory structure.

19 Q. Do you believe that a policy coming
20 from this Commission that is in line with the
21 Division of Energy's viewpoint would be advancing,
22 encouraging deregulation of the electric system in
23 the state of Missouri?

24 A. I think it would move toward some
25 competition in the electric vehicle charging space.

1 I don't know how much it would move toward overall
2 deregulation.

3 **Q. How do you separate that between it's**
4 **only going to stop at vehicles?**

5 A. So with vehicles you have the
6 possibility of reselling the electricity to the
7 driver, whereas with other types of electric
8 service, you're not walking out to Wal-Mart with
9 your battery pack for your home and getting that
10 charged. You're taking service from the utilities.

11 Electric vehicle charging stations
12 represent a slightly different scenario, because
13 you are going somewhere and charging your vehicle,
14 potentially directly through the utility or through
15 some other third party, and I think that's where
16 the distinction comes in.

17 COMMISSIONER RUPP: That's all.

18 Thank you.

19 JUDGE BUSHMANN: Recross, Ameren
20 Missouri?

21 MR. MITTEN: Thank you, your Honor.

22 RECROSS-EXAMINATION BY MR. MITTEN:

23 **Q. Mr. Hyman, you and Chairman Hall**
24 **engaged in a discussion of the various markets that**
25 **may be at issue here, and one of those markets is**

1 the market what ChargePoint serves. And would it
2 be correct to characterize that market as the
3 market of potential vendors who might want to buy
4 and operate a ChargePoint charging station?

5 A. Yes, I think that is basically how
6 the market would look.

7 Q. And the market Ameren Missouri's
8 proposed pilot project focuses on is the electric
9 vehicle driver; is that correct?

10 A. Yes. My understanding is they're
11 focusing on the driver being able to charge.

12 Q. And in his testimony Mr. Nealon
13 indicated that one of the objectives of Ameren
14 Missouri's proposed pilot is to stimulate the use
15 of electric vehicles in Missouri by making charging
16 services available so that people who own electric
17 vehicles would have the option of making
18 long-distance trips using those vehicles?

19 A. Yes.

20 Q. If that's the short-run objective,
21 which of the two markets, the ChargePoint market or
22 the Ameren Missouri market, should be the focus?

23 A. Again, I think it's going to depend
24 on the circumstances, but I think one wants to make
25 sure that the market works well for consumers, and

1 then also, as another consideration, look at to
2 what extent it can work well for vendors.

3 Q. And by consumers you mean the end
4 users?

5 A. Yes.

6 Q. The drivers of electric vehicles?

7 A. I'm sorry. I should have said
8 customers, yes.

9 Q. And if Ameren Missouri's pilot
10 project is successful in stimulating the use of
11 electric vehicles in Missouri, would that create a
12 market for ChargePoint to sell additional charging
13 stations?

14 A. Yes, I think it could, and for other
15 vendors.

16 MR. MITTEN: Thank you. No further
17 questions.

18 JUDGE BUSHMANN: Staff?

19 MS. PAYNE: No questions.

20 JUDGE BUSHMANN: ChargePoint?

21 MR. COMLEY: No other questions.

22 Thank you.

23 JUDGE BUSHMANN: Kansas City Power &
24 Light?

25 MR. FISCHER: Yes, just following up

1 a little bit.

2 RECROSS-EXAMINATION BY MR. FISCHER:

3 Q. Commissioner Hall was asking you
4 about short-term versus long-term stifling of
5 competition. Do you recall those questions?

6 A. Yes.

7 Q. And along the line that Mr. Mitten
8 was asking about, do you understand what the
9 concept of range anxiety means in this context?

10 A. Absolutely, yes.

11 Q. Would you explain to the Commission
12 what that means?

13 A. Well, I think range anxiety is
14 something we're all familiar with, even if we drive
15 a gas vehicle. I mean, there's -- you may come to
16 a point where you're, say, below a quarter or an
17 eighth of a tank and you're starting to fret about
18 where's the nearest gas station.

19 And for electric vehicle drivers,
20 this is a bit more accentuated. Granted, there
21 are some vehicles that are going to have longer
22 ranges. But consider again you driving a
23 gasoline-powered car, for example, like I sometimes
24 do to St. Charles. Whenever I'm driving to
25 St. Charles, I make sure to tank up at some point

1 along the way, because maybe I can make the drive
2 all the way on a full tank, but I don't want to be
3 left with like a quarter tank or something when I
4 get home because I might have to do some local
5 driving.

6 So -- and to the extent it's partly a
7 psychological issue, but it is also an issue of
8 needing to be able to get around on -- with a
9 reasonable assurance that you can fuel up.

10 **Q. If the Commission was interested in**
11 **eventually getting to a more competitive market for**
12 **EV charging, do you have an opinion about in the**
13 **short-term whether range anxiety or the price,**
14 **specific price that was being charged for charging**
15 **would be more important in developing that goal or**
16 **meeting that goal in the long term?**

17 **A. I think both are important. I think**
18 **certainly if one -- I think it really boils down to**
19 **availability, and if there are not any stations**
20 **available that are competitively priced, that's**
21 **certainly going to be determining.**

22 **Q. So range anxiety would be a major**
23 **issue in the short term?**

24 **A. I think so.**

25 **MR. FISCHER: Okay. Thank you.**

1 JUDGE BUSHMANN: Sierra Club?

2 MR. ROBERTSON: No more questions.

3 JUDGE BUSHMANN: Public Counsel?

4 MS. SHEMWELL: No questions. Thank
5 you, sir.

6 JUDGE BUSHMANN: Redirect, Division
7 of Energy?

8 MR. ANTAL: A few follow-up.

9 REDIRECT EXAMINATION BY MR. ANTAL:

10 Q. Mr. Hyman, you were having a
11 conversation with counsel for OPC, and she asked
12 you if you agreed with a statement that was made by
13 Mr. Tom Byrne at Ameren regarding that 100 percent
14 of plug-in electric vehicle drivers charge at home.
15 Do you recall that?

16 A. I do.

17 Q. Do you think there's any relevance to
18 the fact that 100 percent of these drivers charge
19 at home has on this case?

20 MS. SHEMWELL: That's a decision for
21 the Commission to make if it's relevant or not, not
22 for a witness.

23 JUDGE BUSHMANN: What's your
24 response?

25 MR. ANTAL: It's within the scope of

1 cross-examination. She brought it up.

2 JUDGE BUSHMANN: Overruled.

3 THE WITNESS: It has some bearing in
4 the sense of how often people charge outside of
5 home. So even if everybody charges at home, that
6 doesn't mean that they'll never charge outside of
7 home. Sorry for the double negative.

8 MR. ANTAL: No further questions.
9 Thank you.

10 JUDGE BUSHMANN: Thank you,
11 Mr. Hyman. You may step down.

12 (Witness excused.)

13 JUDGE BUSHMANN: Why don't we take a
14 short break. We'll be in recess until 11 o'clock.

15 (A BREAK WAS TAKEN.)

16 MR. ANTAL: Division of Energy calls
17 Mr. Parker Tinsley.

18 (Witness sworn.)

19 JUDGE BUSHMANN: Please be seated.

20 PARKER TINSLEY testified as follows:

21 DIRECT EXAMINATION BY MR. ANTAL:

22 Q. Mr. Tinsley, please state your full
23 name and spell it for the court reporter.

24 A. Parker Tinsley, P-a-r-k-e-r,
25 T-i-n-s-l-e-y.

1 **Q. Mr. Tinsley, where are you employed**
2 **and in what capacity?**

3 A. I'm employed with the Missouri
4 Department of Economic Development with the
5 Division of Energy as a Planner II.

6 **Q. Are you the same Mr. Tinsley who**
7 **filed rebuttal and surrebuttal testimony in this**
8 **case marked as Exhibits 252 and 253?**

9 A. The very same.

10 **Q. Do you have any corrections to those**
11 **exhibits?**

12 A. Yes. In my surrebuttal -- let's see
13 here. I can get the page number and line number
14 for you. Okay. Page 6, line 14, near the end of
15 the sentence, we'll delete keeping from that
16 sentence.

17 **Q. Any other corrections?**

18 A. That's it.

19 **Q. Okay. Taking that correction into**
20 **consideration, if I were to ask you the same**
21 **questions today, would your answers be**
22 **substantially similar?**

23 A. Yes.

24 **Q. And are your answers to these**
25 **questions honest and accurate to the best of your**

1 **knowledge and belief?**

2 A. Yes.

3 MR. ANTAL: Okay. Judge, I'd ask for
4 the admission of Exhibits 252 and 253 into the
5 record.

6 JUDGE BUSHMANN: Any objections?

7 (No response.)

8 JUDGE BUSHMANN: Hearing none, they
9 are received.

10 (DOE EXHIBIT NOS. 252 AND 253 WERE
11 RECEIVED INTO EVIDENCE.)

12 MR. ANTAL: I'll tender the witness
13 for cross-examination.

14 JUDGE BUSHMANN: First cross would be
15 Ameren Missouri.

16 MS. JOHNSON: No questions.

17 JUDGE BUSHMANN: Commission Staff?

18 MS. PAYNE: No questions.

19 JUDGE BUSHMANN: ChargePoint?

20 MR. COMLEY: No questions.

21 JUDGE BUSHMANN: Kansas City Power &
22 Light?

23 MR. FISCHER: No, thank you.

24 JUDGE BUSHMANN: Sierra Club and
25 NRDC?

1 MR. ROBERTSON: No questions.

2 JUDGE BUSHMANN: Public Counsel?

3 MS. SHEMWELL: Thank you. Just a
4 few.

5 CROSS-EXAMINATION BY MS. SHEMWELL:

6 Q. Mr. Tinsley, have you seen
7 Exhibit 203 that we offered this morning, document
8 from the Department of Revenue?

9 A. Would I be able to see it again,
10 please?

11 Q. Certainly.

12 A. I have not seen this, no.

13 Q. Look particularly at the last two
14 pages, if you would.

15 A. With the county names, is that what
16 we're looking at?

17 Q. Yes.

18 A. Okay.

19 Q. We have represented to the Commission
20 that this is a compilation by the Department of
21 Revenue concerning how many electric vehicles there
22 are in the state of Missouri.

23 A. Uh-huh.

24 Q. And we have added to that that there
25 may be 500 special fuel decal vehicles in addition

1 to those. Do you see the number there at the end
2 of 1,577 total in Missouri --

3 A. Yes.

4 Q. -- as represented on that document
5 from the Department of Revenue?

6 A. Uh-huh.

7 Q. So if you add 500 of the fuel decals,
8 that's a total of 2,069 electric vehicles in the
9 state of Missouri?

10 A. Yeah. This one says 1,577, but
11 that's just plus or minus a few, yeah.

12 Q. I'm talking about 500 from the
13 special decal you'd add to that.

14 A. Oh, yes. Yes.

15 Q. Okay. And on Footnote 1, I think, of
16 your -- yeah, Footnote 1 in your rebuttal, you
17 noted -- or you reference an article, California
18 Celebrates One-Quarter Million Plug-In Cars Sold.

19 A. Yes.

20 Q. So California has 250,000 EVs --

21 A. Uh-huh.

22 Q. -- based on that or 46 percent of all
23 the vehicles in the United States?

24 A. Uh-huh.

25 Q. Considering that -- do you agree with

1 the number of 530 as the approximate number of
2 electric vehicles in the entire country?

3 A. Approximately, yes.

4 Q. Sold in the last eight years?

5 A. Uh-huh.

6 Q. Have you heard others testify that
7 99.96 of Ameren customers do not own electric
8 vehicles?

9 A. I have heard that, yes.

10 Q. Do you question that?

11 A. I mean, it would be interesting to
12 see the actual numbers, but I believe that number
13 to be pretty accurate, yeah.

14 Q. On page 3 at line 18, you reference
15 the Missouri alternative fuel infrastructure tax
16 credit.

17 A. Yes.

18 Q. And you say, It's a state policy to
19 encourage electric vehicle development and EV
20 adop-- or charging station development and EV
21 adoption, correct?

22 A. Uh-huh. Yeah.

23 Q. And, in fact, the alternative fuel
24 tax credit also includes a variety of other types
25 of vehicle fuel?

1 A. Yes.

2 Q. And Mr. Hyman went through those.

3 Were you here for that?

4 A. Yes.

5 Q. And you agree with what he mentioned?

6 A. Yes.

7 Q. Is it DE's position that if Ameren's
8 proposal inhibited third-party vendors -- or
9 third-party vendors might be inhibited if they had
10 to compete against a regulated entity?

11 MR. ANTAL: Objection. Outside the
12 scope of the witness' testimony.

13 JUDGE BUSHMANN: Overruled.

14 THE WITNESS: May I hear that
15 question one more time, please?

16 BY MS. SHEMWELL:

17 Q. I'm asking you, is it DE's
18 perspective that competition from third-party
19 vendors might be dampened if they had to compete
20 against a regulated entity?

21 A. While I'm not a formally trained
22 economist myself, there could possibly be some
23 straining factors for individual parties to maybe
24 not want to put out EV charging stations in that
25 corridor, but we've seen that time and time again,

1 you know, with Internet and telecom. You know,
2 they want to center the urban areas and the
3 metropolitan areas before they go to rural areas.

4 So similar -- you know, related to
5 that, we're just not seeing anyone wanting to build
6 out. At least I have not seen personally people
7 wanting to permit and build out locations there.
8 So I think Ameren's poised to have a pretty good
9 hand in helping, I guess, set up a market or create
10 a market.

11 **Q. Do you know if there are EV charging**
12 **stations along I-70, for example, by retail vendors**
13 **who offer charging for free?**

14 A. Not along the corridor. I would just
15 have to see a map that says along the corridor,
16 like, where they might be located.

17 **Q. Do you agree that EV drivers have**
18 **apps on their phone that can help them locate?**

19 A. Yes.

20 **Q. And the information provided includes**
21 **the location, the times that they are open and the**
22 **pricing?**

23 A. Yes.

24 **Q. Do you agree with Mr. Hyman that all**
25 **drivers may have some range anxiety?**

1 A. Yes.

2 Q. On page 7, sir, at the bottom you
3 have a footnote where you're referencing a
4 particular article by Michelle Melton?

5 A. Yeah. I see it here, yeah.

6 Q. Utility Involvement in Electric
7 Vehicle Charging Infrastructure: California at the
8 Vanguard, correct?

9 A. Yes.

10 Q. From the Center for Strategic and
11 International Studies. Can you tell us what type
12 of business or organization the Center for
13 Strategic and International Studies happens to be?

14 A. So they are a nonpartisan political
15 research institute.

16 Q. Would it be fair to call them a think
17 tank?

18 A. I don't see why not.

19 Q. Is this the document that you
20 referenced? I'm going to hand you one.

21 A. Thank you. Yes, this is very
22 familiar.

23 MS. SHEMWELL: This will be
24 Exhibit 353.

25 JUDGE BUSHMANN: I think you're up to

1 204.

2 (OPC EXHIBIT 204 WAS MARKED FOR
3 IDENTIFICATION BY THE REPORTER.)

4 BY MS. SHEMWELL:

5 Q. You reference this on page 7,
6 beginning at line 6. The Center for Strategic and
7 International Studies states that IOUs -- and we
8 agree that that is the type of utility that Ameren
9 is is an IOU?

10 A. Uh-huh.

11 Q. -- have a strong case for involvement
12 in EV charging station deployment as IOUs have
13 access to low-cost capital, and the development of
14 the infrastructure can help ensure investors there
15 is a current and future demand for electric
16 services, right?

17 A. Uh-huh. Yes.

18 Q. And you posit that this is a benefit
19 to customers?

20 A. In the fact that their investors may
21 feel that EV charging is a more secure system than
22 what they originally thought, this provides more
23 charging stations for customers, then yes, I
24 believe that's a benefit to customers.

25 Q. I'm sorry. I gave away mine somehow.

1 JUDGE BUSHMANN: I think it's up
2 here. There was an extra one at the bench.

3 MS. SHEMWELL: Thank you.

4 BY MS. SHEMWELL:

5 Q. Perhaps you could help me with what
6 page.

7 A. Yeah. What are you looking for
8 specifically?

9 Q. I'm looking for what I just -- I'm --

10 A. I'll agree with you that sometimes
11 it's hard to use web pages because they don't have
12 page numbers.

13 Q. That's right.

14 A. Thank you. I think we both just
15 found it at the same time.

16 Q. I'm on page 8, line 1, and you say, A
17 study conducted by the Center for Strategic and
18 International Studies has found under multiple
19 scenarios increases in revenue from EV charging
20 exceeding marginal costs to deliver electricity to
21 the customer.

22 A. Uh-huh.

23 Q. Have you found that in the report?

24 A. Yeah, I have that cited from the
25 report. I would just -- just as you're

1 experiencing right now, I'd have to go through and
2 find it again.

3 Q. Paragraph starts with "many
4 utilities".

5 A. Do you have page numbers on that?

6 Q. If it's all right, I'm going to hand
7 you the Word version because it does have page
8 numbers.

9 A. All right.

10 Q. It starts with, Many utilities see
11 the benefit of involvement because EVs are seen as
12 one of the only potential areas of future load
13 growth.

14 A. Yes, I see that.

15 Q. So this is load building?

16 A. As the witness Martin Hyman said,
17 there is an ability to have a load-building aspect
18 of it.

19 Q. Thank you.

20 A. Yeah.

21 Q. You say, The Utility Industry
22 Association called transportation a huge albeit
23 long-term opportunity for load growth, and it makes
24 good business sense today. And you also note in
25 your testimony, In this way, ratepayers may

1 actually benefit from PEV deployment, correct?

2 A. Yes.

3 Q. And that one study which focused on
4 California found that, under four different
5 scenarios, additional revenue from PEV charging
6 exceeds the marginal cost to deliver electricity to
7 the customer, providing positive net revenues that
8 put downward pressure on rates?

9 A. Yes.

10 Q. When you say -- when this says one
11 study, that wasn't this study, right?

12 A. Correct.

13 Q. Do you know what study it was?

14 A. No. I had a hard time locating that
15 from the article. No matter how much I tried to,
16 like, Google or find different things, I'm not sure
17 which study they were referencing specifically. So
18 I was just quoting this source that we're both
19 using.

20 Q. Okay. But then that source
21 continues: In fact, the impact on utility revenues
22 is complex and challenging to assess due to unknown
23 consumer charging behavior, potential impact on the
24 distribution network from clusters of EVs and an
25 unknown impact on wholesale markets.

1 A. Yes.

2 Q. But the potential exists to increase
3 demand but shift that demand to off-peak times of
4 day, lowering overall cost for ratepayers and
5 improving the efficiency of the system as a whole.

6 A. Yes.

7 Q. So here the lowering overall cost is
8 for all ratepayers, a benefit to all ratepayers?

9 A. Yes.

10 Q. And improving the efficiency of the
11 system as a whole is a benefit to all ratepayers?

12 A. Yes.

13 Q. And potentially to the grid itself?

14 A. Yes.

15 Q. And this is referencing shifting that
16 demand to off-peak times, which is a time of use
17 rate?

18 A. It could be a time of use rate. A
19 time of use rate specifically says that during this
20 time period you will have this rate. Off peak just
21 means it's out of the typical 6 a.m. to 8 p.m. time
22 frame that sees heavy use. So off peak and time of
23 use, while they can't -- they are connected, they
24 are different entities themselves.

25 Q. Time of use rates may be designed in

1 a variety of ways?

2 A. Yes.

3 Q. Ameren testified that it has a time
4 of use rate for summer?

5 A. To the -- to my knowledge, yes.

6 Q. Were you here for Mr. Byrne's
7 testimony?

8 A. I believe so, yeah.

9 MS. SHEMWELL: I think that's all I
10 have for you. I'd like to move for the admission
11 of this document into evidence.

12 JUDGE BUSHMANN: Exhibit 204 has been
13 offered. Is there any objection?

14 MS. JOHNSON: No objection.

15 JUDGE BUSHMANN: Hearing none, that's
16 received into the record.

17 (OPC EXHIBIT 204 WAS RECEIVED INTO
18 EVIDENCE.)

19 JUDGE BUSHMANN: Commissioner
20 questions?

21 CHAIRMAN HALL: No questions. Thank
22 you.

23 JUDGE BUSHMANN: Redirect by Division
24 of Energy?

25 REDIRECT EXAMINATION BY MR. ANTAL:

1 Q. Mr. Tinsley, a few questions
2 regarding questions from counsel for OPC. She
3 mentioned to you that California has a larger
4 number of electric vehicle drivers. Do you recall
5 that?

6 A. Yes.

7 Q. Why do you think that is?

8 A. Well, for starters, not to be too
9 cheeky, but they have a lot of charging stations,
10 and they have a lot of diversification. They have
11 a lot of support behind EV charging station
12 infrastructure development.

13 It's interesting to note that the
14 California -- so their public service, you know,
15 their public utility commission reversed an
16 original decision to not allow utility companies to
17 recover and to set out EV charging stations. They
18 reversed that after a year or two hiatus on the
19 decision, and since then it's just grown
20 exponentially in terms of all these charging
21 stations.

22 I know that there is recently a new
23 contract that came out, which obviously is way
24 beyond the scope of what this case is going to be,
25 but they just got -- a few companies got

1 multi-million-dollar projects approved to put out
2 over a few thousand charging stations. People are
3 going to be able to access that wherever they go.

4 Q. So based off your understanding of
5 the situation in California, commission approval of
6 utilities being able to put electric vehicle
7 charging stations in rate base has spurred
8 development of that market?

9 A. Yes. Yes. And while I'm not a rate
10 expert myself, I'm not too sure how it all plays
11 into rate base, but that is the case and they are
12 investing -- the utilities themselves are investing
13 wholeheartedly into EV charging stations.

14 MR. ANTAL: Thank you very much. No
15 further questions.

16 JUDGE BUSHMANN: Thank you,
17 Mr. Tinsley. You may step down.

18 THE WITNESS: Thank you.

19 JUDGE BUSHMANN: And we're ready for
20 our final witness from OPC.

21 MS. SHEMWELL: Public Counsel calls
22 Geoff Marke.

23 (Witness sworn.)

24 JUDGE BUSHMANN: Please be seated.

25 GEOFF MARKE testified as follows:

1 DIRECT EXAMINATION BY MS. SHEMWELL:

2 Q. Mr. Marke, would you please state and
3 spell your name for the court reporter.

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

5 Q. Where are you employed and in what
6 capacity?

7 A. The Office of the Public Counsel.
8 I'm an economist.

9 Q. Did you prepare what has been marked
10 as Exhibits 201 and 202?

11 JUDGE BUSHMANN: I believe that's 200
12 and 201 if you're referring to the rebuttal and
13 surrebuttal.

14 BY MS. SHEMWELL:

15 Q. Rebuttal as 200, surrebuttal 201?

16 A. Yes.

17 Q. Do you have any changes?

18 A. I do. On my rebuttal testimony,
19 page 3, line -- beginning on line 9, I've written,
20 The proposal is for each site to include direct
21 current fast-charging stations priced at \$10 per
22 hour and a standard level 2 alternating current
23 station priced at \$1 -- 1.20 per hour.

24 The actual proposal now is for a
25 level 2 AC standard to be charged at 20 cents a

1 kilowatt hour and for a level 2 DC fast-charging to
2 be priced at 17 cents a minute.

3 I've got a similar correction on
4 page 32. Line 3, Ameren is proposing a \$10 an hour
5 charge rate for its DCFS station and a \$1.20 an
6 hour rate for its level 2 station. The same
7 prices -- same charging service rates that I quoted
8 earlier.

9 Q. Any corrections to surrebuttal?

10 A. No.

11 Q. Might I direct you to page 2,
12 line 21?

13 A. On my surrebuttal?

14 Q. Yes. Where it says "price gorging".

15 A. Oh, right. It should be gouging, not
16 gorging.

17 Q. Anything else?

18 A. I believe that's it.

19 Q. If I were to ask you the same
20 questions today, would your answers be
21 substantially the same --

22 A. Yes.

23 Q. -- with those corrections?

24 A. Yes.

25 Q. Are your answers true and correct to

1 the best of your knowledge and belief?

2 A. Yes.

3 MS. SHEMWELL: I would offer these
4 exhibits into evidence and Geoff Marke, tender him
5 for cross.

6 JUDGE BUSHMANN: Any objections to
7 their receipt?

8 (No response.)

9 JUDGE BUSHMANN: Hearing none,
10 Exhibits 200 and 201 are received into the record.

11 (OPC EXHIBITS 200 AND 201 WERE
12 RECEIVED INTO EVIDENCE.)

13 JUDGE BUSHMANN: First cross is by
14 Ameren Missouri.

15 MR. MITTEN: Thank you, your Honor.

16 CROSS-EXAMINATION BY MR. MITTEN:

17 Q. Good morning, Dr. Marke.

18 A. Good morning, Mr. Mitten.

19 Q. Before I get into your testimony, I
20 have some questions I'd like to ask you about
21 Exhibit 203, which Ms. Shemwell offered earlier.
22 Do you have a copy of that?

23 A. I do not.

24 Q. And if I could first direct your
25 attention to pages 2 and 3 of that exhibit.

1 A. Yes, sir.

2 Q. Is it my understanding that you
3 submitted a request for documents to the Department
4 of Revenue and that -- is that correct? Is that
5 what pages 2 and 3 are?

6 A. Yes, sir.

7 Q. Is this the entire response that you
8 received to that request?

9 A. I also received an e-mail. This was
10 the attachment that was attached to the e-mail
11 itself.

12 Q. But this is the entire attachment
13 that was attached to the e-mail?

14 A. Yes, this is the entire attachment.

15 Q. If you can go to page 2 where you're
16 describing your request. You asked for the total
17 number of registered electric vehicle cars in
18 Missouri; is that correct?

19 A. That's correct.

20 Q. And I believe Ms. Shemwell
21 represented that the information that was provided
22 on pages 4 and 5 were responsive to that?

23 A. That's correct.

24 Q. Do these include cars like the
25 Chevrolet Volt which has both an electric and an

1 internal combustion capacity?

2 A. It does not include hybrids.

3 Q. But my specific question --

4 A. Was about the Volt?

5 Q. -- was the Chevrolet Volt.

6 A. I can't speak to that. My
7 understanding, speaking with Revenue, is that it
8 didn't include hybrid cars.

9 Q. But you don't know if it included
10 Chevy Volts that operate in Missouri?

11 A. I don't know.

12 Q. So when Ms. Shemwell said that the
13 total number of electric vehicles in Missouri was
14 1,577, if you included Chevy Volts, the number
15 would be higher than that; is that right?

16 A. I'm not -- I mean, Mr. Mitten, my
17 question was the total number of registered
18 electric vehicles. That's what they provided.

19 Q. But you don't know whether that
20 includes the number of Chevy Volts that are
21 registered in Missouri, correct?

22 A. Correct.

23 Q. So you can't attest to the accuracy
24 of the figure that is shown on page 5?

25 A. In regards to the Chevy Volts, I

1 cannot.

2 Q. Or whether or not that actually
3 represents the total number of electric vehicles
4 operating in Missouri as of the date of this
5 request?

6 A. My understanding is that's how the
7 Department of Revenue interpreted our request and
8 provided this data.

9 Q. But again, you don't know whether or
10 not Chevy Volts were included in that total?

11 A. I don't know what specific cars.

12 Q. Thank you. You had the portion of
13 your rebuttal testimony that begins on page 6,
14 anti-competitive environment, and I'd like to focus
15 on that for the next few minutes.

16 Does Public Counsel believe it would
17 be anti-competitive for the Commission to approve a
18 long distance electric vehicle charging pilot
19 program Ameren Missouri is proposing in this case?

20 A. Yes.

21 Q. Are you personally aware of any
22 private person or company that plans to install one
23 or more publicly available DCFC fast electric
24 vehicle chargers along the I-70 corridor between
25 the city of St. Louis and Boonville within the next

1 12 months?

2 A. I have not personally spoken to
3 anyone.

4 Q. How about within the next 24 months?

5 A. I have not personally spoken to
6 anyone.

7 Q. Are you aware of any private person
8 or company who has expressed interest in installing
9 a DCFC fast-charging network along the I-70
10 corridor similar to the one proposed by Ameren
11 Missouri at any time during the next three years?

12 A. I am not aware of anybody.

13 Q. Has any private person or company
14 told you or anyone else at the Office of the Public
15 Counsel that granting Ameren Missouri's application
16 in this case would make that private person or
17 company less likely to install publicly available
18 DCFC fast-chargers along the I-70 corridor?

19 A. The only entity that I'm aware of is
20 the testimony that was given by ChargePoint's
21 witness, Anne Smart.

22 Q. But other than that, you're not aware
23 of anybody?

24 A. No.

25 Q. In his surrebuttal testimony,

1 Mr. Nealon states he believes similar concerns
2 about near term -- excuse me. Let me start over.

3 Over the three-year duration of the
4 pilot program that Ameren Missouri is proposing in
5 this case, the company has stated it believes the
6 revenue derived from vehicle charging will not
7 cover the costs of the charging stations it
8 proposes to install; is that correct?

9 A. Yes, sir.

10 Q. And in his surrebuttal testimony
11 Mr. Nealon states he believes similar concerns
12 about near-term profitability is the main reason no
13 private person or company has stepped forward to
14 provide DCFC fast-charging services along the I-70
15 corridor. Did I correctly characterize
16 Mr. Nealon's testimony?

17 A. Yes, sir.

18 Q. Dr. Marke, if you were a private
19 sector businessperson, would profitability affect
20 your willingness to make an investment in a
21 charging station network similar to the one Ameren
22 Missouri proposes to install?

23 A. Yes, it would.

24 Q. In your experience, do private sector
25 businesses often invest capital in ventures they

1 expect will lose money?

2 A. No.

3 Q. At page 14 of his direct testimony,
4 Mr. Nealon states that Ameren Missouri views its
5 electric vehicle charging pilot as similar to the
6 tariff provisions under which the company provides
7 public area lighting services in that that service
8 is worthy of regulation but either Ameren
9 Missouri -- but Ameren Missouri alone does not have
10 the skill set necessary to provide that service.
11 Do you recall that testimony?

12 A. I do.

13 Q. And at page 6 of your rebuttal, in
14 response to a question beginning on line 4, you
15 state you're not aware of any competition for
16 public area lighting; is that correct?

17 A. Yes.

18 Q. Before you wrote that testimony, did
19 you review Ameren Missouri's tariffs related to
20 outdoor lighting?

21 A. Not specifically, no.

22 Q. You were --

23 MR. MITTEN: May I approach the
24 witness for the purpose of handing him some
25 documents?

1 JUDGE BUSHMANN: You may.

2 MR. MITTEN: Your Honor, it's my
3 intention to ask the Commission to take official
4 notice of some of Ameren Missouri's tariff sheets,
5 specifically the street and outdoor lighting
6 tariffs, sheets 58 through 58.5 and 59 through
7 59.3. Would you like to have these marked as an
8 exhibit or do you want to simply take --

9 JUDGE BUSHMANN: I think it would be
10 preferable, if we have them, to go ahead and mark
11 them and include them that way.

12 MR. MITTEN: That's fine.

13 JUDGE BUSHMANN: That way everybody
14 has a chance to review them.

15 MR. MITTEN: That's fine. Your
16 Honor, could we mark tariffs 58 through 58.5 as the
17 next exhibit in order?

18 JUDGE BUSHMANN: That would be No. 6.

19 MR. MITTEN: And tariff sheets 59
20 through 59.3 would be Exhibit 7.

21 (UE EXHIBITS 6 AND 7 WERE MARKED FOR
22 IDENTIFICATION.)

23 BY MR. MITTEN:

24 Q. Dr. Marke, let me first direct your
25 attention to the document which has been marked as

1 Exhibit 6. That document is entitled Street and
2 Outdoor Area Lighting Company Owned; is that
3 correct?

4 A. Yes, it is.

5 Q. Near the top of the first page of
6 that exhibit it states the rates for company-owned
7 area lighting service that include a lamp and a
8 fixture; is that correct?

9 A. That's correct.

10 Q. And if you could please turn to
11 page 4 of that exhibit. Specifically under the
12 heading Character of Service Supplied, the exhibit
13 states that Ameren Missouri will furnish, install,
14 maintain and deliver electric service to fixtures
15 supplied by the company; is that correct?

16 A. That's correct.

17 Q. Let me ask you now to focus on the
18 document that's been marked as Exhibit 7, and
19 that's entitled Street and Outdoor Area Lighting
20 Customer Owned; is that correct?

21 A. Yes.

22 Q. If you could please turn to page 3 of
23 that exhibit. Under the heading Rate Application,
24 it states, Service under the customer-owned tariff
25 sheets is available when the customer furnishes,

1 installs and owns the area lighting facility; is
2 that correct?

3 A. That's correct.

4 Q. And further down that page under the
5 heading Character of Service Supplied, it states,
6 All Ameren Missouri supplies under the tariff is
7 electricity, correct?

8 A. Correct.

9 Q. And as we mentioned a moment ago, at
10 page 6 of your rebuttal testimony you state you're
11 unaware of any competition for public area
12 lighting; is that right?

13 A. That's what my testimony says, yes.

14 Q. Based on the tariff sheets we just
15 reviewed, are you now aware there is competition
16 for public area lighting?

17 A. I think that's a reasonable
18 interpretation.

19 MR. MITTEN: Your Honor, I would move
20 for the admission of Exhibit 6 and 7 into evidence.

21 JUDGE BUSHMANN: Any objections?

22 (No response.)

23 JUDGE BUSHMANN: They're received
24 into the record.

25 (UE EXHIBITS 6 AND 7 WERE RECEIVED

1 INTO EVIDENCE.)

2 BY MR. MITTEN:

3 Q. Dr. Marke, in his surrebuttal
4 testimony Mr. Nealon describes two basic categories
5 of chargers, destination chargers and corridor
6 chargers. Are you familiar with those two terms?

7 A. I am.

8 Q. At page -- further on on page 17 of
9 his testimony, Mr. Nealon states that electric
10 vehicle drivers are going to stop at I-70 charging
11 islands because they need to charge, not because
12 they need or even choose to be at the host site
13 location. This is a fundamental difference between
14 corridor charging and destination charging. You
15 agree that's what he says?

16 A. Yes.

17 Q. Is his characterization of the
18 fundamental differences between corridor and
19 destination charging correct?

20 A. Yes.

21 Q. A destination charger is a charger
22 located at a destination where the electric vehicle
23 is expected to remain for several hours; would you
24 agree?

25 A. Yes.

1 Q. And examples of destination chargers
2 would be chargers located at a home or apartment
3 building or chargers located at a workplace; is
4 that correct?

5 A. Yes.

6 Q. The purpose of a destination charger
7 is to charge or recharge electric vehicles so they
8 can be used for normal daily activities like going
9 to or from work or to and from stores or other
10 commercial venues; would you agree?

11 A. Yes.

12 Q. And those trips would be relatively
13 short; is that correct?

14 A. Yes.

15 Q. In both his direct and surrebuttal
16 testimonies, Mr. Nealon cites data from the 2009
17 National Household Travel Survey that 95 percent of
18 the one-way private vehicle trips Americans take
19 are fewer than 30 miles in length; is that correct?

20 A. Yes.

21 Q. He further states that same survey
22 concluded that between 80 and 90 percent of the
23 one-way trips I just mentioned could be made using
24 an electric vehicle charged exclusively at home; is
25 that correct?

1 A. Yes.

2 Q. During your deposition on January 5th
3 you told me you have no reason to doubt the
4 accuracy of the data from the National Household
5 Travel Survey; is that correct?

6 A. That's correct.

7 Q. Based on the National Household
8 Survey -- Travel Survey data that Mr. Nealon
9 discussed in his testimony, would it be fair to say
10 because there are less -- let me rephrase. Excuse
11 me.

12 Based on the National Household
13 Travel Survey data that Mr. Nealon discusses in his
14 testimony, would it be fair to say that because
15 they are less than 30 miles in length,
16 approximately 95 percent of the trips Americans
17 take could be made using an electric vehicle
18 charged exclusively on a destination charger?

19 A. Yes.

20 Q. The 95 percent of trips that are
21 30 miles or less, those are not the types of
22 vehicle trips Ameren Missouri's proposed pilot
23 program is designed to address; is that correct?

24 A. Yes.

25 Q. A corridor charger is one located

1 along an interstate highway or other long distance
2 roadway; is that correct?

3 A. Yes.

4 Q. And the purpose of a corridor charger
5 is to facilitate the use of electric vehicles for
6 long distance trips by providing a means to
7 recharge those vehicles en route; is that correct?

8 A. Yes.

9 Q. The chargers that Ameren Missouri
10 proposes to install in its pilot project are
11 corridor chargers; is that correct?

12 A. Yes.

13 Q. At a couple places in your rebuttal
14 testimony you cite a September 2016 report from
15 Idaho National Laboratory which studied the
16 charging habits of electric vehicle owners; is that
17 correct?

18 A. Yes.

19 MR. MITTEN: Your Honor, may I
20 approach the witness for the purpose of handing him
21 a document?

22 JUDGE BUSHMANN: You may.

23 BY MR. MITTEN:

24 Q. Dr. Marke, the document I've just
25 handed you is a copy of that Idaho National

1 Laboratory study that you referenced in your
2 testimony, or at least it's a portion of that
3 study. I didn't produce the entire study because
4 it's more than 500 pages long. Is that correct?

5 A. That's correct.

6 Q. And at page 10 of your surrebuttal
7 testimony, you quote this report as stating,
8 Despite installation of extensive public charging
9 infrastructure, in most of the project areas the
10 vast majority of charging was done at home and
11 work; is that correct?

12 A. That's correct.

13 Q. And that conclusion would be
14 consistent with the testimony you just gave that
15 95 percent of trips Americans make could be made
16 with an electric vehicle destination charger; is
17 that correct?

18 A. Yes, sir.

19 Q. And at page 11 of your rebuttal
20 testimony, again quoting the Idaho National
21 Laboratory report, you state, The projects
22 demonstrated that a ubiquitous charging network is
23 not needed to support PEV driving, with the acronym
24 PEV meaning personal electric vehicle; is that
25 correct?

1 A. That's what I say. Just a
2 qualification on that. I believe PEV acronym
3 stands for plug-in electric vehicles.

4 Q. I stand corrected. Could you please
5 turn to page 3.1 of the report that I just handed
6 you. I think it's marked with a tab.

7 A. Okay.

8 Q. And according to the report, the
9 study involved 7,800 Nissan Leafs and Chevrolet
10 Volts; is that correct?

11 A. Correct.

12 Q. And further down that page it states
13 that the group that conducted the study installed a
14 level 2 standard charger in the home of every study
15 participant; is that correct?

16 A. That's correct.

17 Q. Would you agree that level 2 charging
18 units can be pretty expensive? For example, at
19 page 17 of Schedule MJN-4 of his direct testimony
20 in this case, Mr. Nealon indicates that the cost of
21 those charging stations can be between 2,000 and
22 \$9,000.

23 A. Yes.

24 Q. Would you agree it's unlikely that
25 every owner of an electric vehicle in Missouri has

1 installed at the owner's own cost a level 2
2 charging station?

3 A. I don't know.

4 Q. Wouldn't it be safe to assume that
5 most of them are using simply plug-in outlets to
6 charge their vehicles at home?

7 MS. SHEMWELL: Objection. This is
8 asking for an assumption, speculation.

9 JUDGE BUSHMANN: Well, I'll allow him
10 to answer if he knows the answer.

11 THE WITNESS: Based off of my
12 research, Mr. Mitten, it's my impression that most
13 EV drivers are affluent. Part of the package
14 deals, as I understand it, with some electric
15 vehicle cars come with EV charging battery packets,
16 plug-ins.

17 BY MR. MITTEN:

18 Q. Well, that's not a level 2 charger,
19 though, is it, Dr. Marke?

20 A. I would say level 2. That's my
21 understanding. I would be -- I would err on the
22 side that there are probably more level 2 chargers
23 in personal homes given the small number of EV cars
24 we're talking about in Missouri than not.

25 Q. Then getting back to my question,

1 would you agree that it's likely that every owner
2 of an electric vehicle in Missouri has a level 2
3 charger in his or her home?

4 A. I would agree that they're not fast
5 chargers.

6 Q. That wasn't my question. Could you
7 answer my question?

8 A. Okay.

9 Q. Would you agree that it's unlikely
10 that every owner of an electric vehicle in Missouri
11 does not have a level 2 charger installed in his or
12 her home?

13 MS. SHEMWELL: Again, I'm going to
14 say that that calls for speculation, and also that
15 he has answered the question.

16 JUDGE BUSHMANN: I'll sustain it as
17 asked and answered.

18 BY MR. MITTEN:

19 Q. Vehicles using level 2 chargers
20 charge much faster than vehicles that are simply
21 plugged in to a wall outlet; is that correct?

22 A. Yes.

23 Q. In fact, the differences in charging
24 times are shown on page 18 of Mr. Nealon's
25 Schedule MJN-4; is that right?

1 A. I believe so.

2 MS. SHEMWELL: Do you need to see
3 that to be sure?

4 THE WITNESS: If you have a copy.

5 MS. SHEMWELL: I'm going to ask
6 counsel.

7 MR. MITTEN: Your Honor, may I
8 approach the witness for purposes of showing him?

9 JUDGE BUSHMANN: You may.

10 BY MR. MITTEN:

11 Q. Dr. Marke, I want to represent to you
12 that this is a copy of page 18 of Schedule MJN-4
13 which shows the differences in charging time
14 between a wall outlet and a level 2 charger.

15 A. Yes.

16 Q. Since you've had a chance to look at
17 that exhibit, would you agree that the differences
18 in charging times are, in fact, shown on page 18 of
19 Schedule MJN-4?

20 A. I would with a qualification.

21 Q. I'm simply asking you if the
22 information is shown there.

23 A. There is information shown, yes.

24 Q. Would you agree that because each of
25 the participants in the Idaho National Laboratory

1 had installed in their home at no cost a level 2
2 charging station, that those study participants
3 could charge their vehicles much more quickly at
4 home than could someone who had to rely on a wall
5 outlet?

6 A. Yes.

7 Q. The Idaho National Laboratory study
8 report that I handed you also includes information
9 on the distribution of commuting distances driven
10 by the study participants; is that correct?

11 A. That sounds correct.

12 Q. And according to that report,
13 approximately 64 percent of the commutes studied
14 were 40 miles or less round trip; is that correct?

15 A. Yes.

16 Q. The report also states that between
17 80 and 90 percent of the commutes studied were less
18 than 70 miles round trip; is that correct?

19 A. I don't have the specific numbers,
20 but that sounds correct.

21 Q. So when the report states, as you
22 quoted in your rebuttal testimony, that the vast
23 majority of charging was done at home or at work,
24 those are the trip distances to which the report
25 referred?

1 A. That's correct.

2 Q. Did you include either of those facts
3 in your rebuttal testimony, Dr. Marke?

4 A. Not in my rebuttal, I don't believe.

5 Q. Did you include them in your
6 surrebuttal testimony?

7 A. My surrebuttal testimony contains --

8 Q. That was a yes or no question, I
9 think.

10 A. Those specific numbers, no.

11 Q. The Idaho National Laboratory study
12 further found that, although long distance chargers
13 were not used frequently, quote, when they were
14 used, they provided a vital function, close quote,
15 to the electric vehicle driver. Do you recall
16 that?

17 A. Yes.

18 Q. That particular finding seems pretty
19 germane to this proceeding. Did you include that
20 information in your rebuttal testimony?

21 A. I did not quote that.

22 Q. And one of the recommendations that
23 the Idaho National Laboratory study made was to
24 continue to analyze DCFC fast-chargers especially
25 along travel corridors to determine the cost/

1 benefit of installing charging infrastructure; is
2 that correct?

3 A. I'm sorry, Mr. Mitten. Could you
4 please repeat the question?

5 Q. Certainly. One of the
6 recommendations of the Idaho National Laboratory
7 study was to continue to analyze DCFC fast-chargers
8 especially along travel corridors to determine the
9 cost/benefit of installing charging infrastructure?

10 A. I don't know of that recommendation.
11 I'm not aware of it.

12 Q. Could you turn to page 3-22 of the
13 document that I handed you?

14 A. Yes.

15 Q. Recommendation 3-3-5, recommendations
16 for supporting market growth. Do you see that?

17 A. I see it now.

18 Q. The third bullet point, continue to
19 analyze DCFCs especially along travel corridors to
20 determine the cost/benefit of installing charging
21 infrastructure. Is that what it says?

22 A. That's what it says.

23 Q. You didn't mention that
24 recommendation anywhere in your rebuttal testimony,
25 did you?

1 A. No, I did not.

2 Q. At page 8 of his surrebuttal
3 testimony, Mr. Nealon states that home charging and
4 long distance corridor charging are completely
5 complementary to each other. Would you agree that
6 the Idaho National Laboratory study that you cited
7 in your testimony supports Mr. Nealon's conclusion?

8 A. Yes.

9 Q. Your rebuttal testimony also cites a
10 study reported in a publication entitled Nature
11 Energy as support for the proposition that
12 87 percent of vehicles currently on the road could
13 be replaced by an electric vehicle even if there
14 was no possibility of a recharge during the day.
15 Do you recall that testimony?

16 A. I do.

17 Q. And during your deposition we
18 reviewed the Nature Energy study, and we determined
19 that the study reported in that article assumed an
20 electric vehicle would be driven an average of 37
21 to 38 miles per day; is that correct?

22 A. That sounds correct.

23 MS. SHEMWELL: Do you need the page
24 citation?

25 MR. MITTEN: Well, he seems to be

1 able to answer the question, so that's fine.

2 MS. SHEMWELL: Well, I'd like it
3 then.

4 BY MR. MITTEN:

5 Q. Did you mention that particular
6 assumption in your discussion of the Nature Energy
7 article in your testimony?

8 A. I'm sorry, Mr. Mitten. Could you
9 repeat the assumption again?

10 Q. Certainly. You agreed that during
11 your deposition, when we reviewed the Nature Energy
12 article, that that particular study or article
13 assumed an electric vehicle would be driven an
14 average of 37 or 38 miles per day. Do you recall
15 that testimony? And I'm asking you if you
16 mentioned that particular assumption from the
17 Nature Energy article anywhere in your testimony?

18 A. I did not make that mention in my
19 testimony.

20 Q. Based on its assumptions regarding
21 the number of miles driven, would it be fair to
22 restate the Nature Energy study's conclusion as
23 follows: That 87 percent of vehicles currently on
24 the road could be replaced by an electric vehicle
25 even if there were no possibility of a recharge

1 during the day if you assume those vehicles would
2 be driven on average less than 40 miles per day?

3 A. I would agree with that.

4 Q. Do you agree that the 40 mile per day
5 driver is not the driver that Ameren Missouri is
6 targeting to use the DCFC fast chargers that it
7 intends to install along the I-70 corridor as part
8 of its pilot?

9 A. Yes.

10 Q. Now, Ameren Missouri proposes to
11 install electric vehicle chargers at five charging
12 stations along the I-70 corridor between the city
13 of St. Louis and Boonville and a sixth charging
14 island in Jefferson City; is that correct?

15 A. Yes.

16 Q. And during your deposition we
17 discussed some of the distances between the city of
18 St. Louis and three cities at or near the western
19 end of Ameren Missouri's proposed charging network.
20 Do you recall that discussion?

21 A. I do.

22 Q. And specifically the cities we
23 discussed were Columbia, Boonville and Jefferson
24 City; is that right?

25 A. That sounds correct.

1 Q. And during your deposition I think
2 you agreed that the distance between the city of
3 St. Louis and Boonville one way is 149 miles?

4 A. Yes.

5 Q. And the one-way distance between the
6 city of St. Louis and Columbia is 120 miles?

7 A. Yes.

8 Q. And the one-way distance between the
9 city of St. Louis and Jefferson City is 122 miles;
10 is that right?

11 A. Yes.

12 Q. Now, in Schedule MJN-4 of his
13 testimony, his direct testimony, Mr. Nealon states
14 the maximum all-electric range for the Nissan Leaf
15 is approximately 100 miles, and the maximum
16 all-electric range of a Chevrolet Volt is
17 approximately 40 miles; is that correct?

18 A. That sounds correct.

19 Q. And you told me during your
20 deposition that, to the best of your knowledge,
21 those range estimates were accurate?

22 A. Yes.

23 Q. Now, using the distances between
24 cities that we discussed a moment ago and the
25 vehicle ranges that Mr. Nealon included in his

1 direct testimony, do you agree it would be
2 impossible for either a Chevrolet Volt traveling
3 exclusively on electricity or a Nissan Leaf to make
4 even a one-way trip between the city of St. Louis
5 and either Columbia, Boonville or Jefferson City
6 without having to recharge en route?

7 A. Yes, within a reasonable time.

8 Q. Do you have a copy of Mr. Nealon's
9 testimony?

10 A. I don't. I'm sorry.

11 Q. Ms. Johnson is going to hand you a
12 copy of Mr. Nealon's testimony.

13 A. Okay.

14 Q. And could you please turn to page 12
15 of his surrebuttal testimony.

16 A. Okay.

17 Q. In the middle of that page is a map
18 showing all of the publicly available non-Tesla
19 proprietary DCFC fast-chargers along I-70 between
20 St. Louis and Kansas City; is that correct?

21 A. Could you tell me the page again,
22 Mr. Mitten?

23 Q. It's page 12 of Mr. Nealon's
24 surrebuttal testimony.

25 A. Surrebuttal. I'm sorry. I'm on

1 direct. Yes.

2 Q. Let me ask my question again. That
3 map in the middle of that page shows all the
4 publicly available non-Tesla proprietary DCFC fast
5 electric vehicle chargers along the I-70 corridor
6 between St. Louis and the Kansas City metropolitan
7 area; is that correct?

8 A. That's what Mr. Nealon says, yes.

9 Q. And according to that map, there's
10 not a single publicly available non-Tesla
11 proprietary DCFC fast electric vehicle charger
12 along I-70 between Wentzville and Blue Springs; is
13 that correct?

14 A. Yes.

15 Q. Now, during your deposition we also
16 talked about some of the driving distances between
17 Wentzville and Columbia, Jefferson City and
18 Boonville. Do you recall that?

19 A. I do.

20 Q. And we established, I believe, that
21 the one-way distance between Wentzville and
22 Columbia is 84 miles, which would make the round
23 trip distance 168 miles. Do you recall that?

24 A. Yes.

25 Q. And based on the all-electric driving

1 ranges for the Nissan Leaf and Chevy Volt that we
2 talked about a moment ago -- let me just focus.

3 Based on the all-electric range for
4 the Chevrolet Volt that we talked about a moment
5 ago, would you agree that that vehicle could not
6 make either a one-way or a round trip between
7 Wentzville and Columbia without having to recharge
8 en route?

9 A. Yes.

10 Q. And while the Nissan Leaf may be able
11 to make a one-way trip between Wentzville and
12 Columbia, it could not make a round trip between
13 those two cities without having to recharge
14 en route; would you agree?

15 A. Yes.

16 Q. I think during your deposition we
17 also established that the one-way distance between
18 Wentzville and Boonville is approximately 107
19 miles, which would make the round trip distance
20 approximately 214 miles. Do you recall that?

21 A. Yes.

22 Q. And neither a Chevrolet Volt nor a
23 Nissan Leaf could make either a one-way or round
24 trip between Wentzville and Boonville without
25 having to recharge en route; would you agree?

1 A. Yes.

2 Q. And again, during your deposition the
3 one-way distance between Wentzville and Jefferson
4 City is 92 miles, which would make the round trip
5 184 miles. Do you recall that?

6 A. Yes.

7 Q. And a Chevrolet Volt could not make
8 either a one-way or a round trip between Wentzville
9 and Jefferson City without having to recharge en
10 route; you agree?

11 A. Yes.

12 Q. And while it might be able to make
13 the one-way trip to Jefferson City, it could not
14 make the round trip between Wentzville and
15 Jefferson City without having to recharge en route;
16 do you agree?

17 A. Yes.

18 Q. Could you turn to page 8 of your
19 rebuttal testimony, Dr. Marke.

20 A. I'm there.

21 Q. And I'm specifically focusing on the
22 map that's in the middle of that page, and that map
23 purports to show the location of every electric
24 vehicle charging station within a five-mile radius
25 of Interstate 70 along the corridor between

1 St. Louis and Boonville; is that correct?

2 A. That's correct.

3 Q. It appears from this map there are
4 three types of charging stations portrayed there:
5 residential chargers, public stations and high
6 power stations; is that correct?

7 A. That's correct.

8 Q. Can you tell from your map how many
9 of the residential chargers are DCFC fast-chargers?

10 A. I can't from my map.

11 Q. Can you tell from your map how many
12 of the public stations are DCFC fast-chargers?

13 A. I can't from my map.

14 Q. Can you tell from your map how many
15 of the high power stations are DCFC fast-chargers?

16 A. I can't from my map.

17 Q. Do you know if the residential
18 chargers shown on your map are available to the
19 public?

20 A. If the residential chargers?

21 Q. Yes.

22 A. My understanding is they're available
23 if you're a Plug Share member.

24 Q. But if you're not a Plug Share
25 member, they would not be available to you; is that

1 correct?

2 A. I don't know.

3 Q. Is it likely that someone is going to
4 make their home available to the general public to
5 charge their electric vehicles?

6 A. I would say that's unlikely.

7 Q. Do you know if any of the residential
8 chargers that's shown on your map is available 24
9 hours a day, 7 days a week and 365 days a year?

10 A. I do not know that.

11 Q. Do you know if the public stations
12 shown on your map are available to the general
13 public?

14 A. I do not know that.

15 Q. Are the public stations available on
16 a 24 hours a day, 7 days a week, 365 days a year
17 basis?

18 A. I do not know that.

19 Q. Are all the high power stations shown
20 on your map available to the general public?

21 A. Again, I do not know that.

22 Q. Are the high power stations available
23 on a 24 hours a day, 7 days a week, 365 days a year
24 basis?

25 A. I do not know that.

1 Q. Are any of the chargers shown on
2 page 8 of your rebuttal testimony Tesla proprietary
3 stations, and by that I mean stations that only a
4 Tesla vehicle can use for charging?

5 A. I don't know.

6 Q. At page 10 of your rebuttal
7 testimony, you raise the specter that advances in
8 charging technology would render obsolete the
9 charging islands that Ameren Missouri proposes to
10 install as part of its pilot project, which would
11 result in investment in those islands being
12 considered stranded. Do you recall that testimony?

13 A. I do.

14 Q. And specifically the article to which
15 I refer is cited at Footnote 9 of your testimony;
16 is that correct?

17 A. That's correct.

18 Q. Now, the article that you cited at
19 Footnote 9 reports the demonstration at Oak Ridge
20 Laboratory of a 20 kilowatt wireless vehicle
21 charging system; is that correct?

22 A. That's correct.

23 Q. And according to the article, it took
24 the lab approximately three years to develop that
25 technology; is that correct?

1 A. That sounds correct.

2 Q. And the article also says that the
3 technology is moving closer to being ready for the
4 market; is that correct?

5 A. Yes.

6 Q. But it doesn't say the technology is
7 currently ready for the market; would you agree?

8 A. Not at that speed, no.

9 Q. Do you know when the technology
10 described in the article will be ready?

11 A. At that speed?

12 Q. Yes.

13 A. No.

14 Q. In his surrebuttal testimony,
15 Mr. Nealon states the wireless technology tested at
16 the Oak Ridge Laboratory takes more than twice as
17 long to fully charge a vehicle compared to the DCFC
18 fast-chargers Ameren Missouri proposes to install
19 as part of its pilot project. Is Mr. Nealon
20 correct on that point?

21 A. I don't know.

22 Q. Do you have a copy of the transcript
23 from your deposition, Dr. Marke?

24 A. I don't.

25 MR. MITTEN: May I approach the

1 witness?

2 JUDGE BUSHMANN: You may.

3 BY MR. MITTEN:

4 Q. Would you please turn to page 37 of
5 the deposition transcript.

6 A. I'm there.

7 Q. Let me read you the question that
8 begins on line 8. Excuse me. I've got the wrong
9 transcript reference. Excuse me. Page 67. I'm
10 sorry.

11 A. I'm there, Mr. Mitten.

12 Q. Beginning on line 22 I asked the
13 question, In his surrebuttal testimony Mr. Nealon
14 states that the wireless technology tested at the
15 Oak Ridge Laboratory takes more than twice as long
16 to fully charge a vehicle compared to the DCFC
17 fast-chargers Ameren Missouri proposes to install.
18 Is Mr. Nealon correct? And would you read your
19 answer?

20 A. Yes.

21 Q. Thank you. Dr. Marke, if you're
22 driving an electric vehicle on a trip between
23 Jefferson City and St. Louis and want to get there
24 as quickly as possible, would you prefer to charge
25 your vehicle in approximately 20 minutes using a

1 DCFC fast-charger or would you prefer a wireless
2 charger that takes more than twice as long to
3 accomplish the same task?

4 A. The faster charger.

5 Q. Inductive charging is the term used
6 to describe technology used to wirelessly charge an
7 electric battery; is that correct?

8 A. It's one form, yes.

9 Q. And during your deposition we
10 reviewed an article about inductive charging, and
11 that article listed several disadvantages of that
12 technology. Do you recall?

13 A. I do.

14 Q. And the disadvantages identified in
15 that article are that inductive charging is slower
16 than corded charging, is more expensive and is less
17 convenient. Do you recall that?

18 A. I do.

19 Q. And you told me you have no reason to
20 doubt the accuracy of what that article stated
21 about the disadvantages of inductive charging; do
22 you remember?

23 A. For inductive charging, I do recall.

24 Q. And that article also identified a
25 safety concern related to inductive vehicle

1 charging, specifically the fact a wireless charger
2 can interfere with electronic devices such as heart
3 pacemakers. Do you recall that?

4 A. I do recall that.

5 Q. In evaluating whether charging
6 equipment Ameren Missouri proposes to install in
7 its pilot program could be rendered stranded by the
8 wireless vehicle charging technology that you
9 reference in your testimony, should the Commission
10 consider the speed of wireless chargers compared to
11 the corded chargers Ameren Missouri proposes to
12 install?

13 A. My understanding --

14 Q. That was a yes or no question,
15 Dr. Marke.

16 A. Can you please repeat it?

17 Q. Sure. In evaluating whether the
18 charging equipment Ameren Missouri proposes to
19 install in its pilot program could be rendered
20 stranded by the wireless charging technology you
21 referenced in your testimony, should the Commission
22 consider the speed of wireless chargers compared to
23 the corded chargers Ameren Missouri proposes to
24 install?

25 A. The Commission should consider the

1 speed.

2 Q. And should it also consider whether
3 wireless chargers are more expensive than corded
4 chargers?

5 A. Yes.

6 Q. Should it also consider whether the
7 technology is currently market ready?

8 A. Yes.

9 Q. Should the Commission also consider
10 safety concerns regarding wireless charging
11 technology?

12 A. Absolutely.

13 Q. Dr. Marke, are you aware that
14 inductive charging devices currently are available
15 for cell phones?

16 A. Yes.

17 Q. Do you use an inductive charger for
18 your cell phone or, like me, do you still rely on a
19 cord?

20 A. I still rely on a cord.

21 Q. Do you suspect people who own
22 wireless cell phone chargers also use a cord from
23 time to time?

24 A. Yes.

25 Q. Since people sometimes use wireless

1 chargers for their cell phones and sometimes use
2 cords, would you agree that those two charging
3 technologies are complementary?

4 A. Yes.

5 Q. And do you agree that corded charging
6 technology for electric vehicles and wireless
7 charging technology for electric vehicles also
8 would be complementary?

9 A. Yes.

10 Q. If you could turn to page 15 of your
11 rebuttal testimony, Dr. Marke.

12 A. I'm there.

13 MS. SHEMWELL: I'm sorry. Was that
14 of rebuttal?

15 MR. MITTEN: Yes.

16 MS. SHEMWELL: Thank you.

17 BY MR. MITTEN:

18 Q. And beginning at line 12 you state,
19 in substance, that growth in the number of electric
20 vehicles on the road will increase demand for
21 electricity, and Ameren Missouri will have to meet
22 that demand by continuing to burn fossil fuels. Is
23 that a fair characterization of your testimony?

24 A. Yes.

25 Q. And that statement would be equally

1 true if electric vehicle growth is attributable to
2 Ameren Missouri's proposed pilot project or to
3 activities undertaken by the private sector; would
4 you agree?

5 A. Yes.

6 Q. In fact, any growth in demand for
7 Ameren Missouri's service during the foreseeable
8 future, whether it was for electric vehicles or for
9 other devices powered by electricity, will be met
10 with energy the company generates using fossil
11 fuels; do you agree?

12 A. Yes.

13 Q. In fact, even if there's no growth in
14 demand for electricity, Ameren Missouri will still
15 generate electricity using fossil fuels; do you
16 agree?

17 A. Yes.

18 Q. To your knowledge, is the company
19 planning to add fossil fuel generation to meet any
20 expected increase in demand attributable to the
21 increased use of electric vehicles within its
22 service area?

23 A. I'm not aware of any.

24 Q. Under Missouri's renewable energy
25 standard, Ameren Missouri is required to ensure

1 specified percentages of its electric sales come
2 from renewable resources; is that correct?

3 A. Yes.

4 Q. And those standards increase the
5 amount of energy that must come from renewable
6 sources through the year 2021; is that correct?

7 A. Yes.

8 Q. And that's four years from now,
9 right?

10 A. Yes.

11 Q. So the proposed three-year pilot
12 program would occur entirely within that four-year
13 window; would you agree?

14 A. Yes.

15 Q. And you agree that renewable
16 resources are not fossil fuels?

17 A. I agree with that, yes.

18 Q. So during the entirety of the pilot
19 program that's being proposed in this case, Ameren
20 Missouri is legally required to decrease the amount
21 of fossil fuels it uses for generation; would you
22 agree?

23 A. Is legally required to decrease? I
24 don't believe that's what they're required to do.

25 MS. SHEMWELL: And you're asking for

1 a legal conclusion from a non-lawyer, so I object.

2 JUDGE BUSHMANN: Your response?

3 MR. MITTEN: I think he can answer
4 the question if he's able to. He's testified in a
5 number of proceedings involving the Renewable
6 Energy Act, and I think he can answer the question
7 if he's able.

8 JUDGE BUSHMANN: I'll overrule the
9 objection. You may answer if you know.

10 THE WITNESS: Ameren is required to
11 go ahead and produce more renewables.

12 BY MR. MITTEN:

13 Q. And that would be over the entirety
14 of the three-year pilot program we're proposing in
15 this case, right?

16 A. Over their -- yes.

17 Q. Now, if you would next turn to
18 page 20 of your rebuttal testimony.

19 A. I'm there.

20 Q. And I'm specifically looking at the
21 table showing the generating sources for
22 electricity produced in Missouri. The pie chart on
23 the left side of the table represents the types of
24 fuel used to generate electricity in Missouri; is
25 that correct?

1 A. That's correct.

2 Q. And do you know whether the
3 percentages shown in that pie chart include all
4 Missouri utilities or just investor-owned utilities
5 regulated by the Commission?

6 A. I don't know.

7 Q. Do you know whether or not -- excuse
8 me. Do you know at what point in time the pie
9 chart captures the percentages that are shown
10 there?

11 A. My understating of the pie chart is
12 that they're annual averages.

13 Q. But do you know what point in time
14 they were measured?

15 A. No, I do not.

16 Q. Now, based on the fact that some of
17 Missouri's investor-owned electric utilities have
18 not yet achieved all the renewable energy standard
19 objectives required by law, would you expect the
20 percentage of fossil fuels depicted in the pie
21 chart to decrease as the use of renewable energy
22 increases?

23 A. I would hope, yes.

24 Q. And as the percentage of fossil fuels
25 used to generate electricity decreases, carbon

1 dioxide emissions also would decline; would you
2 agree?

3 A. Yes.

4 Q. Next to the pie chart that I've just
5 been talking about is a bar graph showing the
6 pounds of carbon dioxide equivalents for four types
7 of vehicles; is that correct?

8 A. That's correct.

9 Q. Would you expect the bar for carbon
10 dioxide equivalents attributable to all-electric
11 vehicles to decline as utilities use more
12 renewables and, therefore, further reduce their CO2
13 emissions?

14 A. I would expect all four bars to
15 decrease, yes.

16 Q. As all-electric vehicles replace
17 gasoline-powered vehicles, would you expect the bar
18 depicting CO2 equivalents for gasoline-powered
19 vehicles to decline?

20 A. Yes.

21 Q. And that decline would represent
22 fewer carbon dioxide emissions in the atmosphere;
23 is that correct, Dr. Marke?

24 A. Yes.

25 Q. If carbon dioxide emissions

1 attributable to electric generation decline because
2 of the renewable energy standard and carbon dioxide
3 emissions from gasoline-powered vehicles decline
4 because they're replaced by all-electric vehicles,
5 all other things being equal, overall carbon
6 dioxide emissions in the atmosphere would also
7 decline; would you agree?

8 A. Yes.

9 Q. And you would consider that to be an
10 environmental benefit?

11 A. Yes.

12 Q. If carbon dioxide emissions
13 attributable to electric generation remain the
14 same, would increased use of electric vehicles in
15 Missouri result in a net reduction in carbon
16 dioxide emissions?

17 A. I would say yes.

18 Q. Thank you. Would that be an
19 environmental benefit?

20 A. Yes.

21 Q. Do you have a copy of Dr. Sheehy's
22 testimony in front of you? I think there may be
23 one.

24 A. I do.

25 Q. Could you please turn to page 12 of

1 his testimony.

2 A. I'm there.

3 Q. Beginning at line 8 on that page, he
4 states that, given Ameren Missouri's generation
5 profile and integrated resource plan, the
6 deployment of more electric vehicles will reduce
7 greenhouse gas emissions relative to conventional
8 vehicles using gasoline.

9 Do you see that statement?

10 A. I do see that statement.

11 Q. Is Dr. Sheehy's statement correct?

12 A. Yes.

13 Q. Would you please turn to page 24 of
14 your rebuttal testimony, Dr. Marke.

15 A. I'm there.

16 Q. Now, on that page you state that,
17 from an equity standpoint, it's hard to justify
18 Ameren Missouri's proposed pilot program because it
19 would raise rates on households who struggle to
20 make ends meet. Is that a correct characterization
21 of your testimony?

22 A. Yes.

23 Q. In his surrebuttal testimony,
24 Mr. Nealon states that if net costs associated with
25 the proposed pilot program were included in rates

1 from the first day of the program, the subsidy
2 required from Ameren's retail electric customers
3 would be less than 1 percent -- excuse me --
4 1 cent per customer per month; is that correct?

5 A. Yes.

6 Q. If a current retail electric customer
7 can afford a monthly electric bill of \$99.99, is it
8 Public Counsel's position that the addition of a
9 1 cent subsidy, which would raise the bill to an
10 even \$100, would be a hardship for that customer?

11 A. No.

12 Q. And Ameren Missouri has stated
13 several times in this case that the actual subsidy
14 would be less than Mr. Nealon suggests because no
15 costs associated with the pilot have been included
16 in the revenue requirement in Ameren Missouri's
17 pending rate case. Do you recall that?

18 A. I do recall that.

19 Q. And because of regulatory lag, as
20 long as rates set in that case remain in effect,
21 Ameren Missouri's shareholders will bear
22 100 percent of the net costs of the pilot project;
23 is that correct?

24 A. Yes.

25 Q. You also state in your rebuttal

1 testimony that you believe a subsidy would be
2 unfair because it disproportionately benefits
3 customers with an adjusted gross income in excess
4 of \$75,000 a year; is that correct?

5 A. Yes.

6 Q. Ameren Missouri currently has
7 programs in place that disproportionately benefit
8 customers with low adjusted incomes, particularly
9 those at or near the federal poverty level; is that
10 correct?

11 A. Yes.

12 Q. And the subsidies necessary to
13 support those programs come from higher income
14 customers; do you agree?

15 A. Yes.

16 Q. In the past Public Counsel has
17 supported programs that require some customers to
18 provide a subsidy to other customers; do you agree?

19 A. Yes.

20 Q. For example, in Ameren Missouri's
21 last general rate case, Public Counsel supported an
22 annual subsidy of tens of millions of dollars for
23 Noranda; is that correct?

24 MS. SHEMWELL: Was that in a
25 Stipulation & Agreement?

1 MR. MITTEN: Yes.

2 THE WITNESS: Yes.

3 BY MR. MITTEN:

4 Q. I want to now focus on your rebuttal
5 testimony at page 28. Are you there?

6 A. On rebuttal, yes.

7 Q. Beginning on line 16 you claim it
8 would be unfair for the Commission to approve a
9 pilot program that subsidizes electric vehicles
10 because those vehicles do not pay their fair share
11 to support the transportation infrastructure. Did
12 I correctly characterize your testimony?

13 A. Yes.

14 Q. And you base that claim on the fact
15 that because electric vehicles don't use gasoline,
16 they don't pay gasoline taxes to support the
17 transportation infrastructure; is that correct?

18 A. Yes.

19 Q. Mr. Nealon in his surrebuttal
20 testimony says you're incorrect because he
21 testifies the Missouri Department of Revenue
22 requires electric vehicle owners to purchase the
23 special fuel decal at an annual cost of \$75 which,
24 in lieu of gasoline taxes, is used to support the
25 state's transportation infrastructure. Is

1 Mr. Nealon correct?

2 A. Mr. Nealon is correct.

3 Q. And do you agree that the amount
4 electric vehicle owners pay or should pay to
5 support Missouri's transportation infrastructure is
6 a question that's beyond this Commission's
7 jurisdiction?

8 A. Yes.

9 Q. I just have one more area I'd like to
10 investigate with you, Dr. Marke. At page 5 of your
11 rebuttal testimony you state, Public Counsel
12 believes time of use rates would better promote
13 growth of electric vehicles than the pilot program
14 Ameren Missouri has proposed; is that correct?

15 A. Yes.

16 Q. And by time of use rates you mean a
17 rate structure where rates are lower during
18 off-peak hours, which would allow an electric
19 vehicle owner to charge his or her vehicle when
20 it's least expensive; is that correct?

21 A. Yes.

22 Q. Are the considerations that would
23 make time of use rates attractive to an electric
24 vehicle owner more applicable to destination
25 chargers than corridor chargers?

1 A. Yes.

2 Q. In fact, time of use rates would be
3 particularly attractive to home chargers; would you
4 agree?

5 A. Yes.

6 Q. Would you agree a person who wants to
7 drive his or her electric vehicle from St. Louis to
8 Jefferson City and is most interested in completing
9 that trip in the shortest time possible?

10 A. Yes.

11 Q. And would you agree that the cost of
12 electricity relative to other times of the day
13 would be at best a secondary consideration for
14 someone like that?

15 A. Yes.

16 Q. Therefore, you agree that for
17 corridor charging, which is the type of charging
18 that Ameren Missouri proposes in its pilot project,
19 time of use rates are not nearly as important as
20 they would be for someone who is charging a vehicle
21 at home?

22 A. Yes.

23 MR. MITTEN: I don't have any further
24 questions. Thank you, Dr. Marke.

25 JUDGE BUSHMANN: Cross by Staff?

1 MS. PAYNE: No questions. Thank you.

2 JUDGE BUSHMANN: ChargePoint?

3 MR. COMLEY: No questions.

4 JUDGE BUSHMANN: Kansas City Power &
5 Light?

6 MR. FISCHER: No questions.

7 JUDGE BUSHMANN: Division of Energy?

8 MR. ANTAL: No questions. Thank you.

9 JUDGE BUSHMANN: Sierra Club/NRDC?

10 MR. ROBERTSON: A few questions,
11 Judge.

12 CROSS-EXAMINATION BY MR. ROBERTSON:

13 Q. I want to refer you to your
14 surrebuttal testimony on page 2. Beginning on
15 line 22 you quote a passage from the rebuttal
16 testimony of Sierra Club witness Douglas Jester; is
17 that right?

18 A. That's correct.

19 Q. And from that passage you -- well,
20 let me quote the beginning of the passage. At the
21 same time, during market development, most charging
22 stations will be local monopolies in which the
23 unregulated pricing could be excessive, risking
24 electricity prices that eliminate fuel cost savings
25 and may likely exceed gasoline prices.

1 And on page 3 of your testimony you
2 draw the conclusion from that quoted passage
3 Mr. Jester apparently has no concerns regarding
4 excessive pricing for charging stations not owned
5 by public utilities; is that right?

6 A. Yes.

7 Q. Do you have a copy of Mr. Jester's
8 rebuttal before you?

9 A. I bet you I do. Yes.

10 Q. Can I refer you to page 29?

11 A. Okay.

12 Q. Make that page 30. In your
13 surrebuttal on page 3, the footnote says you're
14 quoting page 30 of Mr. Jester's rebuttal testimony,
15 line 4 through 9. I want to back up to page 29,
16 line 19. The question is, How do you recommend the
17 cost of electric vehicle charging equipment to be
18 recovered? And his answer, There are several
19 approaches available, each of which can be
20 compatible with both development of a competitive
21 market and with utility engagement in this market.

22 Turning on to page 30, says, The
23 first alternative is to charge the electric vehicle
24 driver in addition to the delivered energy costs.
25 And the final sentence before the passage he quoted

1 is, However, during market development, when
2 vehicle charging infrastructure is leading vehicle
3 sales, this approach may not be able to recover
4 sufficient revenue at reasonable prices.

5 Did I read that correctly?

6 A. Yes.

7 Q. On page 8 of your surrebuttal, you're
8 quoting now from a report from the National
9 Research Council?

10 A. Yes.

11 Q. And beginning on page 5 there is a
12 passage that is in bold face and underlined.

13 MS. SHEMWELL: Page 5?

14 THE WITNESS: Line 5?

15 BY MR. ROBERTSON:

16 Q. Line 5, page 8. Thanks. The
17 committee does not at this point recommend
18 additional direct federal investments in EV
19 charging. That refers to federal investment and
20 not to public utility investment, right?

21 A. Correct.

22 Q. And on page 7, the preceding page,
23 you're quoting from that same report beginning on
24 page 6, right?

25 A. Correct.

1 Q. On page 7, line 5, the sentence
2 reading, The committee notes that state
3 jurisdiction over retail electric rates --
4 electricity rates constrains the federal role in
5 directing the electricity sector to foster PEV
6 growth; is that correct?

7 A. That's correct.

8 Q. And on page 6, there is a graph also
9 from the National Research Council report; is that
10 correct?

11 A. That's correct.

12 Q. Which purports to show the types of
13 charging ranked in order of the most important to
14 the least important, with the least important being
15 interstate DC fast charging?

16 A. Yes.

17 Q. Now, nobody in this docket disputes
18 that home charging will continue to be predominant;
19 would you agree with that?

20 A. Yes.

21 Q. Does the fact that interstate DC fast
22 charging has the least important rank, does that
23 necessarily mean that it is not a constraint on E--
24 the lack of such infrastructure is not a constraint
25 on EV adoption?

1 A. Could you repeat the question? I'm
2 sorry.

3 Q. The fact that interstate DC fast
4 charging is ranked least important does not
5 necessarily mean that the lack of such charging is
6 not a constraint on EV adoption; would you agree?

7 A. Yes.

8 MR. ROBERTSON: No further questions.

9 JUDGE BUSHMANN: Commissioner
10 questions?

11 CHAIRMAN HALL: Yeah. Just a few.

12 QUESTIONS BY CHAIRMAN HALL:

13 Q. Good afternoon.

14 A. Good afternoon.

15 Q. I understand OPC's legal position
16 that the Commission should not assert jurisdiction
17 over charging stations, and I also understand OPC's
18 policy arguments as to why the Commission should
19 not assert jurisdiction.

20 Let's assume that the Commission
21 determines that under the statute it has no
22 discretion and that it must assert jurisdiction
23 over charging stations, electric charging stations,
24 electric vehicle charging stations.

25 Looking at the words contained in the

1 proposed tariff, what is OPC's position as to those
2 words?

3 A. One second. I know I've got the
4 tariff here.

5 MR. MITTEN: Make sure counsel is
6 giving him the tariff that was filed on October 7th
7 in response to the Commission order.

8 THE WITNESS: October 7th. Yes.
9 Okay. I'm sorry.

10 CHAIRMAN HALL: Can I get a copy of
11 that as well?

12 MR. MITTEN: I can lend you mine,
13 Commissioner Hall.

14 CHAIRMAN HALL: Thank you.

15 THE WITNESS: Chairman, could you
16 repeat your question?

17 BY CHAIRMAN HALL:

18 Q. Does OPC have a position, and if so
19 what is it, with regards to the proposed tariff
20 separate and apart from legal arguments about
21 whether we should assert jurisdiction, separate and
22 apart from policy considerations as to whether we
23 should assert jurisdiction?

24 A. So if the intention is to -- I mean,
25 this is sort of the conundrum I think that we're

1 facing here, right, because if we're promoting a
2 market-based product, we're trying to promote --
3 let me step back.

4 If we want to cover our costs, we
5 want to institute cost of service regulation, then
6 the proposed tariff is more in line with that. The
7 20 cents a kilowatt hour, that's more than what the
8 retail cost is for electricity. Right?
9 Ultimately, I think that would probably discourage
10 EV drivers from wanting to charge or they'll be
11 more inclined to charge at home.

12 If the goal is just to promote EV
13 adoption, you know, our position had been that
14 probably the best way to do that is just through
15 education, that right now if I drive -- I know just
16 conceptually gas costs about \$2 a gallon. I don't
17 know exactly what a kilowatt hour would cost me,
18 and I would venture to say that most Ameren
19 Missouri customers don't know.

20 If I'm a prospective EV -- if I'm
21 looking to purchase a car, I would want to know
22 what the cost of that fuel would be over, say, a
23 given year. Being able to educate car dealers,
24 being able to get that message across I think would
25 be infinitely more cost effective than just

1 producing EV cars and adoption than four charging
2 stations west of Wentzville.

3 Absent that, how do you cover the
4 cost of this? I don't think you can. I mean, I
5 think that's Ameren's position, too, that by itself
6 these charging stations will never cover the cost
7 of it. It won't be cost effective by itself.

8 There's some academic gymnastics that
9 kind of take place here when they look at the
10 cost/benefit. They say that the existence of these
11 charging stations will induce people to buy cars.
12 Whether or not they use them is irrelevant. Just
13 the sheer fact that these stations exist along
14 I-70, they'll go ahead and buy the cars.

15 I would argue that that hasn't really
16 played out in the Kansas City area. We know that
17 those charging stations have been in there for
18 several years now. Based off of the numbers we
19 pulled out from the Department of Revenue, there
20 are a lot more charging stations than there are
21 actually EV cars. I think that's a fundamental
22 problem.

23 Again, if the focus is on promoting
24 EVs, our position has been that the regulated
25 entity can best swim in its own stream and promote

1 EVs by promoting electricity and the benefits that
2 come with that, whether that's time of use charging
3 or whatnot, but that the market itself is in a
4 better position to go ahead and do what they do
5 best, which is fund stations where they think they
6 can get their costs -- they can cover their costs
7 of investment.

8 Q. Well, I mean, for me you just gave
9 additional policy considerations as to why we
10 should not assert jurisdiction. I didn't hear in
11 there and I haven't read anywhere in any written
12 testimony or from any witness testifying at the
13 hearing as to a legal rationale for rejecting this
14 tariff other than the legal determination that we
15 do not have jurisdiction over EV charging stations.

16 So I'm not going to prolong this
17 inquiry. I'll just make the point that I'll look
18 for answers to that question in the post-hearing
19 briefing.

20 Thank you.

21 JUDGE BUSHMANN: Recross based on
22 Bench questions, Ameren Missouri?

23 MR. MITTEN: No questions.

24 JUDGE BUSHMANN: Staff?

25 MS. PAYNE: No questions.

1 JUDGE BUSHMANN: ChargePoint?

2 MR. COMLEY: No questions.

3 JUDGE BUSHMANN: KCPL?

4 MR. FISCHER: No questions.

5 JUDGE BUSHMANN: Division of Energy?

6 MR. ANTAL: No questions.

7 JUDGE BUSHMANN: Sierra Club/NRDC?

8 MR. ROBERTSON: No questions.

9 JUDGE BUSHMANN: Redirect by OPC?

10 REDIRECT EXAMINATION BY MS. SHEMWELL:

11 Q. Dr. Marke, Ameren pointed you to the
12 Idaho National Lab's recommendations, I think it
13 was 3.3.1.

14 A. Yes.

15 Q. A variety of recommendations.

16 A. I'm there.

17 Q. Did you or would you point to other
18 recommendations?

19 A. It was my reading of the Idaho
20 National Laboratory, so this was a large scale meta
21 study that was done, 5,000 plus pages. I
22 definitely did not go through all 5,000 pages. But
23 in general, the Idaho National Lab supported that
24 additional infrastructure for long distance
25 corridors was not -- let me rephrase that.

1 I'll quote directly. This is a
2 highlight that Mr. Mitten gave me. DC -- DCFCs
3 along travel corridors were found to effectively
4 enable long distance range extensions for PEVs.
5 These chargers were not typically used. Therefore,
6 their value is hard to quantify from the
7 perspective of the charger host, but when they were
8 used, they provided a vital function to the PEV
9 driver.

10 I think that's consistent with how
11 Ameren has portrayed it and has characterized what
12 the Idaho National Lab says. At the end of the
13 day, I point back to the ubiquitous charging is not
14 needed. Right now I think the biggest concern that
15 we've seen with cities that have enabled this
16 technology is that you've got a lot of assets that
17 just are not being used. I point again to the
18 numbers that we found here in Kansas City, that we
19 have more charging stations than electric vehicle
20 cars.

21 **Q. What evidence have you seen that, if**
22 **any, that Ameren customers owning EVs actually**
23 **reside or travel between Wentzville and Columbia?**

24 **A. I don't know of any. I'm not aware.**

25 **Q. Would Tesla vehicles be able to make**

1 these trips without recharging, let's say, between
2 Wentzville and Columbia?

3 A. Yes.

4 Q. What about the new Bolt?

5 A. Yes, the new Bolt would be able to do
6 that without having to charge.

7 Q. Mr. Mitten had quite a few questions
8 for you about the map on page 8.

9 A. Yes.

10 Q. Do EV drivers have ways to determine
11 where charging stations are located?

12 A. Yes.

13 Q. And how would that be?

14 A. My understanding is that EV drivers
15 will generally use an app on their phone to go
16 ahead and find out available charging spots.

17 Q. So the apps will tell them where the
18 stations are available?

19 A. Yes.

20 Q. At what times they're available and
21 the cost involved, if any?

22 A. That's my understanding.

23 Q. Inductive charging, we were talking
24 about inductive charging. What should the
25 Commission -- what's the full range of things that

1 the Commission should consider in terms of
2 inductive charging?

3 A. They shouldn't consider inductive
4 charging. This is emerging technology. The big
5 thing right now is resident charging. Just to
6 illustrate an example here, inductive charging,
7 look at inductive coupling. It's a magnet that
8 essentially sends out power everywhere, different
9 directions. So when Mr. Mitten says that people
10 with a pacemaker might be affected by this, he's
11 100 percent correct.

12 Resident coupling focuses that
13 charging between the battery and the charger
14 itself. There is a -- my understanding is that
15 there is a commercial vendor right now called
16 Plugless Power. So this is a plugless EV charging
17 station that's on the market that provides service
18 that, at least from Oak Ridge National Laboratory's
19 perspective, is the future, that this is where
20 things are heading down.

21 So I would just caution that
22 inductive coupling or inductive charging is not --
23 was not the focus of my testimony. I probably
24 needed to be more clear on that.

25 Q. Mr. Mitten asked you some questions

1 **about Ameren adding fossil fuel.**

2 A. Yes.

3 **Q. Does Ameren have excess capacity?**

4 A. Yes, they do.

5 **Q. Why?**

6 A. Well, for a variety of reasons. One,
7 I mean, Ameren has to have excess capacity just to
8 meet reliability needs and to operate in the MISO
9 market. You have to have a certain level that
10 exceeds what would need to be to meet their peak
11 loads.

12 Ameren recently lost their largest
13 customer, Noranda Aluminum. Represents roughly
14 10 percent of -- or the equivalent of the city of
15 Springfield. So as of right now, I would
16 characterize -- be interested to see their --
17 Ameren's resource plan moving forward.

18 **Q. Mr. Mitten referred to this as a**
19 **pilot program. Has Ameren expressed any intent to**
20 **install more electric vehicle charging stations?**

21 A. It is, and I think that's what we
22 find a little troubling with this is that in
23 EW-2016-0313, this is the workshop docket for
24 regulatory reform, Ameren submitted a proposal
25 called the 21st Century Modernization Plan. Within

1 that plan was an allocation for \$43 million for
2 electric vehicle charging stations over the next
3 five years. To put this in perspective, that would
4 dwarf anything that's already been done on the
5 Kansas City side.

6 Q. Do you know the cost?

7 A. \$43 million.

8 Q. Would you look at your pie charts? I
9 believe it was on page 19. Page 20. I'm sorry.
10 Page 20.

11 A. Yes.

12 Q. Would you turn back to page 19.

13 A. Yes.

14 Q. Please look at your footnote. Does
15 that contain information about the date of this
16 document you were referencing?

17 A. It contains more information, yes.

18 Q. It specifically says US DOE 2016?

19 A. That's correct.

20 Q. Do you know if that's the date that
21 this study was published was in 2016 or this
22 information was provided?

23 A. My understanding is that if parties
24 are interested, they can go to that website and
25 there's additional information as to the

1 methodology and the metrics that were used.

2 Q. OPC supported a subsidy for Noranda;
3 is that right?

4 A. We supported a subsidy within the
5 totality of many different issues with that, yes.

6 Q. In a Stipulation & Agreement, is that
7 what you're answering?

8 A. Yes.

9 Q. Is it your opinion that the special
10 fuel decals actually cover the cost of
11 infrastructure?

12 A. No. In fact, it's not in this
13 testimony, but in my testimony in the Kansas City
14 KCPL rate case I do go into length about that.
15 Roughly comes out to about half of what the
16 Missouri Department of Transportation assumes it
17 covers.

18 Q. How does that compare to gasoline-
19 powered vehicle drivers?

20 A. The gasoline-powered vehicle drivers
21 on a whole will be paying twice as much for the
22 infrastructure that they use than the electric
23 drivers would be, or the special vehicle decals.

24 Q. You had a discussion about time of
25 use rates?

1 A. Yes.

2 Q. Have we all agreed that customers
3 continue to charge at home the majority of the
4 time?

5 A. Yes.

6 Q. And the time of use rates are
7 important to those who charge at home?

8 A. I think it would -- I think it would
9 be an attractive option for an electric vehicle
10 driver.

11 Q. How would they find out about a time
12 of use rate?

13 A. Right now, they could search Ameren
14 Missouri's tariff. There may be information on
15 their website. As far as I know, the time of use
16 rate that's currently in place is only being used
17 by a handful of people.

18 Q. Mr. Robertson asked you some
19 questions about the chart with the DC fast-charging
20 at the top.

21 A. Yes.

22 Q. Do you believe that the lack of DC
23 fast-charging inhibits customers from buying EVs?

24 A. No, I don't. The way this market is
25 heading right now is that the battery capacity is

1 getting bigger. That's just it. The Bolt's going
2 to have 240-mile-plus range. Hopefully the battery
3 technology will progress even more, and that will
4 make long distance traveling easier or less stress
5 free (sic).

6 Q. Commissioner Hall asked you a
7 question about the tariffs, and we agree that will
8 be addressed in briefs, correct?

9 A. Correct.

10 MS. SHEMWELL: That's all I have.

11 Thank you.

12 JUDGE BUSHMANN: Thank you for your
13 testimony, Dr. Marke. You may step down.

14 THE WITNESS: Thank you.

15 JUDGE BUSHMANN: That's all the
16 evidence that we have as far as I know. Do the
17 parties have any other matters that need to be
18 addressed?

19 My schedule shows that the expedited
20 transcripts will be done February 2nd, initial
21 briefs are due February 15th, and reply briefs are
22 due February 28th. With that, that's all the
23 evidence we have today. We're adjourned and off
24 the record.

25 (WHEREUPON, the hearing concluded at

1 12:56 p.m.)
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1	I N D E X	
2	STAFF'S EVIDENCE:	
3	NATELLE DIETRICH	
	Direct Examination by Ms. Payne	378
4	Cross-Examination by Mr. Mitten	379
	Cross-Examination by Mr. Comley	387
5	Cross-Examination by Mr. Antal	388
	Cross-Examination by Ms. Shemwell	390
6	Questions by Chairman Hall	399
	Questions by Commissioner Rupp	407
7	Further Questions by Chairman Hall	410
	Further Questions by Commissioner Rupp	411
8	Recross-Examination by Mr. Mitten	413
	Recross-Examination by Mr. Comley	417
9	Recross-Examination by Mr. Fischer	418
	Recross-Examination by Mr. Antal	421
10	Redirect Examination by Ms. Payne	426
	Redirect Examination by Mr. Williams	429
11	BYRON MURRAY	
12	Direct Examination by Ms. Payne	431
	Cross-Examination by Mr. Antal	432
13	Questions by Chairman Hall	435
	Recross-Examination by Mr. Robertson	439
14	DIVISION OF ENERGY'S EVIDENCE:	
15	MARTIN HYMAN	
16	Direct Examination by Mr. Antal	442
17	Cross-Examination by Mr. Comley	444
	Cross-Examination by Mr. Fischer	452
18	Cross-Examination by Mr. Robertson	457
	Cross-Examination by Ms. Shemwell	458
19	Questions by Chairman Hall	464
	Questions by Commissioner Rupp	471
20	Recross-Examination by Mr. Mitten	477
	Recross-Examination by Mr. Fischer	480
21	Redirect Examination by Mr. Antal	482
22	PARKER TINSLEY	
	Direct Examination by Mr. Antal	483
23	Cross-Examination by Ms. Shemwell	486
	Redirect Examination by Mr. Antal	497
24		
25		

1	OPC'S EVIDENCE:	
2	GEOFF MARKE	
	Direct Examination by Ms. Shemwell	500
3	Cross-Examination by Mr. Mitten	502
	Cross-Examination by Mr. Robertson	553
4	Questions by Commissioner Hall	557
	Redirect Examination by Ms. Shemwell	562
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

1	UE'S EXHIBITS		
2		MARKED	REC'D
3	EXHIBIT NO. 6		
	Union Electric Tariff Sheets		
4	58 - 58.5	509	511
5	EXHIBIT NO. 7		
	Union Electric Tariff Sheets		
6	59 - 59.3	509	511
7	STAFF'S EXHIBITS		
8	EXHIBIT NO. 100		
	Rebuttal Testimony of Natelle		
9	Dietrich 379		
10	EXHIBIT NO. 101		
	Rebuttal Testimony of Byron M.		
11	Murray		432
12			
13	OPC'S EXHIBITS		
14	EXHIBIT NO. 200		
15	Rebuttal Testimony of Geoff Marke	502	
16	EXHIBIT NO. 201		
17	Surrebuttal Testimony of Geoff Marke	502	
18	EXHIBIT NO. 203		
	Information from Department of		
19	Revenue on number of Electric Cars		
	in Missouri	376	377
20			
	EXHIBIT NO. 204		
21	"Utility Involvement in Electric		
	Vehicle Charging Infrastructure:		
22	California at the Vanguard"	492	497
23	DIVISION OF ENERGY'S EXHIBITS		
24	EXHIBIT NO. 250		
	Rebuttal Testimony of Martin R.		
25	Hyman	375	443

1	EXHIBIT NO. 251		
2	Surrebuttal Testimony of Martin R.		
3	Hyman	375	443
4	EXHIBIT NO. 252		
5	Rebuttal Testimony of Parker J.		
6	Tinsley	375	485
7			
8	EXHIBIT NO. 253		
9	Surrebuttal Testimony of Parker J.		
10	Tinsley	375	485
11	CHARGEPOINT'S EXHIBITS		
12	EXHIBIT NO. 303		
	DED Data Request 200	446	448
13			
	EXHIBIT NO. 304		
14	DED Data Request 600	446	448
15			
16			
17			
18			
19			
20			
21			
22			
23			
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25			

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C E R T I F I C A T E

STATE OF MISSOURI)

) ss.

COUNTY OF COLE)

I, Kellene K. Feddersen, Certified
Shorthand Reporter with the firm of Midwest
Litigation Services, do hereby certify that I was
personally present at the proceedings had in the
above-entitled cause at the time and place set
forth in the caption sheet thereof; that I then and
there took down in Stenotype the proceedings had;
and that the foregoing is a full, true and correct
transcript of such Stenotype notes so made at such
time and place.

Given at my office in the City of
Jefferson, County of Cole, State of Missouri.

Kellene K. Feddersen, RPR, CSR, CCR

<p>A</p> <p>a.m 496:21</p> <p>ability 395:13 396:24 397:10 398:1 427:1 436:21 437:9 437:11 454:3 494:17</p> <p>able 385:17 446:18 449:25 461:10 478:11 481:8 486:9 499:3,6 525:1 530:10 531:12 543:4,7 555:3 559:23,24 563:25 564:5</p> <p>above-entitled 576:9</p> <p>above-the-line 386:14 429:2</p> <p>absent 461:9 560:3</p> <p>absolutely 464:25 480:10 539:12</p> <p>AC 416:11 435:12 439:13 439:22 500:25</p> <p>academic 560:8</p> <p>accentuated 480:20</p> <p>access 492:13 499:3</p> <p>accessible 445:19 448:12</p> <p>accomplish 537:3</p> <p>account 401:11 401:20 418:14 438:1</p> <p>accuracy 504:23 514:4 537:20</p> <p>accurate 384:23 438:14,15,19 443:13 484:25</p>	<p>488:13 527:21</p> <p>achieved 544:18</p> <p>acronym 516:23 517:2</p> <p>Act 402:14 460:8 543:6</p> <p>acted 386:2,20</p> <p>activities 513:8 541:3</p> <p>activity 388:6</p> <p>actual 406:2 488:12 500:24 548:13</p> <p>add 487:7,13 541:19</p> <p>added 486:24</p> <p>adding 566:1</p> <p>addition 486:25 548:8 554:24</p> <p>additional 380:2 385:9,15 409:11 479:12 495:5 555:18 561:9 562:24 567:25</p> <p>address 514:23</p> <p>addressed 570:8 570:18</p> <p>addressing 397:20</p> <p>adjourned 570:23</p> <p>adjusted 549:3,8</p> <p>adjustment 381:23 382:2</p> <p>adjustments 382:11</p> <p>administrative 469:24</p> <p>admission 377:4 379:5 432:5 443:17 485:4 497:10 511:20</p> <p>adop-- 488:20</p> <p>adopt 460:14</p> <p>adopted 437:15</p>	<p>adoption 488:21 556:25 557:6 559:13 560:1</p> <p>advances 534:7</p> <p>advancing 476:21</p> <p>advantage 386:12 402:21 402:25</p> <p>adverse 452:5,6</p> <p>advertised 438:3</p> <p>advice 408:22</p> <p>advise 452:5</p> <p>advised 392:24 400:16</p> <p>affect 507:19</p> <p>affluent 518:13</p> <p>afford 548:7</p> <p>afraid 449:14 450:24</p> <p>afternoon 557:13 557:14</p> <p>ago 511:9 527:24 530:2,5</p> <p>agree 383:7,21 384:13,20 398:11 399:12 406:12 415:21 423:18 445:8 448:21 460:25 461:19 462:12 466:24 487:25 489:5 490:17 490:24 492:8 493:10 512:15 512:24 513:10 517:17,24 519:1,4,9 520:17,24 524:5 526:3,4 528:1 530:5,14 530:25 531:10 531:16 535:7 540:2,5 541:4 541:11,16 542:13,15,17</p>	<p>542:22 545:2 546:7 549:14 549:18 551:3 552:4,6,11,16 556:19 557:6 570:7</p> <p>agreed 482:12 525:10 527:2 569:2</p> <p>agreeing 461:3</p> <p>Agreement 549:25 568:6</p> <p>ahead 421:21 441:13 446:9 509:10 543:11 560:14 561:4 564:16</p> <p>Airlines 387:18 407:24 417:8,9</p> <p>airport 387:18 393:14 417:11</p> <p>AI 446:23</p> <p>albeit 494:22</p> <p>ALEX 374:1</p> <p>all-electric 527:14,16 529:25 530:3 545:10,16 546:4</p> <p>allocated 442:21 443:4 454:25 464:2</p> <p>allocation 567:1</p> <p>allow 412:23 413:1,2 425:22 438:14 498:16 518:9 551:18</p> <p>allowable 470:15</p> <p>allowed 384:5,8 387:23 397:6 400:11 409:12 410:8 415:9 425:10 451:19 467:9 469:24 473:24</p> <p>allowing 465:20</p>	<p>475:10</p> <p>allows 383:25</p> <p>altered 380:5</p> <p>alternate 462:13</p> <p>alternating 415:24 416:6 416:24 500:22</p> <p>alternative 488:15,23 554:23</p> <p>Aluminum 566:13</p> <p>ambiguous 394:5</p> <p>Ameren 372:8 373:6,10 379:16,22 380:3 381:18 382:22 386:7 389:1 391:7 392:15,19 395:14,15 396:1 397:2,2 398:11 399:13 400:9 401:19 402:17,20,21 403:3,4 404:18 407:4 409:10 410:23 413:5 413:21,22 414:24 415:1,5 415:6,19 416:8 416:10,16,18 419:1 420:4,8 422:21 424:24 425:2 426:15 426:16 427:2,3 427:3,7,9,21,25 428:1,2,9,10,10 432:16 434:2 434:13,15 438:24 444:3 445:17 451:14 452:25 456:12 460:14 466:15 466:16 470:20 472:19 474:8</p>
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<p>477:19 478:7 478:13,22 479:9 482:13 485:15 488:7 492:8 497:3 501:4 502:14 505:19 506:10 506:15 507:4 507:21 508:4,8 508:9,19 509:4 510:13 511:6 514:22 515:9 526:5,10,19 534:9 535:18 536:17 538:6 538:11,18,23 540:21 541:2,7 541:14,25 542:19 543:10 547:4,18 548:12,16,21 549:6,20 551:14 552:18 559:18 561:22 562:11 563:11 563:22 566:1,3 566:7,12,19,24 569:13 Ameren's 389:23 394:25 397:5 401:14 409:19 410:25 411:9 462:1 466:10 467:19 468:16 489:7 490:8 548:2 560:5 566:17 Americans 513:18 514:16 516:15 amount 417:18 427:6,12 433:23 434:3 435:18 436:23 440:24 459:9 459:16 467:10</p>	<p>542:5,20 551:3 amounts 384:14 384:21 385:4 analysis 434:2,9 434:12 Analyst 442:10 analyze 522:24 523:7,19 angle 397:22 animal 403:6 Anne 393:18 506:21 annual 390:5 544:12 549:22 550:23 annually 389:4 389:13 answer 379:3 418:12 432:1 449:13 450:7 518:10,10 519:7 525:1 536:19 543:3,6 543:9 554:18 answered 519:15 519:17 answering 568:7 answers 378:23 431:21 443:9 443:12 447:3 484:21,24 501:20,25 561:18 Antal 374:1 377:15,23 388:23 390:12 421:4,5,17,22 424:5,11 425:23 427:6 432:24,25 434:20 439:7 441:15,24 442:3 443:6,16 443:25 447:18 448:1,25 449:10 482:8,9</p>	<p>482:25 483:8 483:16,21 485:3,12 489:11 497:25 499:14 553:8 562:6 572:5,9 572:12,16,21 572:22,23 anti-competitive 505:14,17 anxiety 480:9,13 481:13,22 490:25 anybody 388:16 390:16 402:23 420:3 506:12 506:23 apart 558:20,22 apartment 513:2 Apartments 458:12 app 564:15 apparently 554:3 appear 396:13 446:20 APPEARANC... 373:1 appears 532:3 applicable 452:12 455:18 465:23 551:24 application 372:8 422:2 506:15 510:23 applied 427:7,17 475:3 approach 446:10 508:23 515:20 520:8 535:25 555:3 approaches 554:19 approaching 458:17,17 appropriate 460:9,10</p>	<p>466:23 approval 372:9 379:21 422:7 422:22 499:5 approve 392:15 505:17 550:8 approved 397:5 499:1 approximate 488:1 approximately 377:2 389:4,7 488:3 514:16 521:13 527:15 527:17 530:18 530:20 534:24 536:25 apps 490:18 564:17 area 398:15 411:13 418:24 445:1,20 450:7 456:18,18 457:3 466:19 472:20 508:7 508:16 510:2,7 510:19 511:1 511:11,16 529:7 541:22 551:9 560:16 areas 414:16 420:23 445:7 445:10 450:8 450:13 457:4,4 468:3 471:3,12 473:1 490:2,3,3 494:12 516:9 arena 411:24 argue 560:15 argues 379:23 argument 406:13 406:15 arguments 557:18 558:20 arrangement 404:24</p>	<p>arrangements 404:13 arrives 377:19 article 487:17 491:4 495:15 524:19 525:7 525:12,12,17 534:14,18,23 535:2,10 537:10,11,15 537:20,24 asked 376:25 379:2 391:7 420:19 427:6 427:14 445:13 482:11 503:16 519:17 536:12 565:25 569:18 570:6 asking 399:7 421:14 422:21 428:5 480:3,8 489:17 518:8 520:21 525:15 542:25 aspect 494:17 Aspire 407:25 assert 403:11 404:2,5 405:12 406:4,14 407:2 557:16,19,22 558:21,23 561:10 assess 495:22 assessment 410:3 assets 454:4 563:16 associated 379:24 380:22 381:2 385:20 418:15 547:24 548:15 Association 494:22 assume 381:17 387:17,21,22</p>
---	--	---	--	--

401:14 451:22 469:23 476:16 518:4 526:1 557:20 assumed 524:19 525:13 assumes 449:11 568:16 assuming 382:11 382:23 390:11 409:9 452:3 assumption 410:4 518:8 525:6,9,16 assumptions 525:20 assurance 481:9 atmosphere 545:22 546:6 attached 503:10 503:13 attachment 503:10,12,14 attempting 411:13 attention 502:25 509:25 attest 504:23 attorney 373:2 373:11,16,20 374:1 388:7 426:18 427:6 450:19,24 473:14 attractive 551:23 552:3 569:9 attributable 427:25 541:1 541:20 545:10 546:1,13 audit 385:1 authority 422:3 authorizes 383:22 availability 481:19	available 405:17 478:16 481:20 505:23 506:17 510:25 528:18 529:4,10 532:18,22,25 533:4,8,12,15 533:20,22 539:14 554:19 564:16,18,20 Avenue 373:7 average 524:20 525:14 526:2 averages 544:12 averaging 419:19 avoid 404:22 aware 386:5 391:7 393:4 402:6 404:9,11 415:23 425:1,9 429:24 430:7 434:10 460:13 505:21 506:7 506:12,19,22 508:15 511:15 523:11 539:13 541:23 563:24 <hr/> B B 373:20 B-y-r-o-n 431:7 back 398:4,9 409:17 411:22 417:7 426:9 450:6 473:15 518:25 554:15 559:3 563:13 567:12 background 449:17 bar 473:5 545:5 545:9,17 bars 545:14 base 381:9 395:16 396:3 397:2 399:13 400:13,23	453:1,3,5,11,19 454:1,8 455:10 499:7,11 550:14 based 389:8 390:8 412:17 422:5,11,13 423:3 433:9 435:17 436:6 436:21 437:15 438:23 461:12 464:9 487:22 499:4 511:14 514:7,12 518:11 525:20 529:25 530:3 544:16 560:18 561:21 basic 512:4 basically 403:18 456:3 464:1 466:12 473:12 478:5 basis 383:19 390:5 403:16 403:20,23 404:1 405:25 409:1 410:15 413:10 419:11 438:10,17,20 446:5 533:17 533:24 batteries 391:20 436:19 battery 391:25 463:3 477:9 518:15 537:7 565:13 569:25 570:2 bear 548:21 bearing 483:3 beginning 426:10 452:20 492:6 500:19 508:14 536:12 540:18 547:3 550:7	553:14,20 555:11,23 begins 505:13 536:8 behalf 390:20 behavior 495:23 belief 443:14 485:1 502:1 believe 376:22 391:13 393:23 394:1 400:14 405:24 407:4 411:7 418:12 418:21 422:24 426:14 452:23 456:11 462:3 466:3 468:18 472:5 476:19 488:12 492:24 497:8 500:11 501:18 503:20 505:16 517:2 520:1 522:4 529:20 542:24 549:1 567:9 569:22 believes 409:24 507:1,5,11 551:12 bell 391:14 below-the-line 392:25 400:11 429:3 bench 438:24 493:2 561:22 beneficial 461:4 benefit 401:18 420:7,10,11,11 420:16 428:2 451:10,12,13 451:17,20 492:18,24 494:11 495:1 496:8,11 523:1 546:10,19 549:7	benefits 401:12 402:16 403:3 428:6,8 549:2 561:1 best 378:24 431:22 443:13 484:25 502:1 527:20 552:13 559:14 560:25 561:5 bet 554:9 better 551:12 561:4 beyond 498:24 551:6 big 565:4 bigger 570:1 biggest 563:14 bill 434:2,3,9 548:7,9 billing 438:15 bio 462:17,24 bit 398:7 465:7 480:1,20 blends 462:25 Blue 529:12 boils 470:17 481:18 bold 555:12 Bolt 564:4,5 Bolt's 570:1 booked 380:23 381:3,8,11 384:14 385:4 books 384:15,22 Boonville 398:23 505:25 526:13 526:23 527:3 528:5 529:18 530:18,24 532:1 Botanical 409:7 410:6 bottom 413:9 457:23 458:1 491:2
---	--	---	---	---

<p>bouncing 398:4 box 373:3,12 374:5,10 457:18,23 break 441:13 483:14,15 breakdown 377:3 briefing 561:19 briefly 418:10 briefs 570:8,21 570:21 broad 425:12 broadly 476:9 broken 376:19 brought 407:25 483:1 Brydon 373:2 bucks 466:9 build 472:19 490:5,7 building 374:2 460:9 468:24 473:2 494:15 513:3 built 403:12 bullet 523:18 burn 540:22 BUSHMANN 372:12 375:4 375:20 376:4,9 377:5,7,11,21 377:24 378:5 379:7,9,15 386:24 388:14 388:22 390:14 390:19,23 394:7 396:5,15 396:18 399:6,9 399:18,21 413:5 417:3 418:8 421:3,21 424:6 425:25 426:3,6 430:19 430:23 432:7,9 432:15,18,20</p>	<p>432:23 434:22 434:25 435:3 438:23 439:1,3 439:6,8 441:3,6 441:8,12,19,22 443:19,21 444:2,5,7 446:9 446:12 447:12 447:16,23 448:2 449:2,12 452:16 457:9 458:22 464:17 471:22 477:19 479:18,20,23 482:1,3,6,23 483:2,10,13,19 485:6,8,14,17 485:19,21,24 486:2 489:13 491:25 493:1 497:12,15,19 497:23 499:16 499:19,24 500:11 502:6,9 502:13 509:1,9 509:13,18 511:21,23 515:22 518:9 519:16 520:9 536:2 543:2,8 552:25 553:2,4 553:7,9 557:9 561:21,24 562:1,3,5,7,9 570:12,15 business 376:13 394:22 491:12 494:24 businesses 507:25 businessperson 507:19 buy 478:3 560:11 560:14 buyer 399:3 buying 404:17</p>	<p>569:23 Byrne 380:4 426:16 453:15 482:13 Byrne's 426:18 461:15 497:6 Byron 430:25 431:3,7,15 572:11 574:10</p> <hr/> <p style="text-align: center;">C</p> <hr/> <p>C 375:1 576:1,1 calculate 389:2 calculation 385:23,25 399:15 438:19 calculations 401:3 434:12 434:13 California 402:24 487:17 487:20 491:7 495:4 498:3,14 499:5 574:22 call 377:25 378:2 391:2 430:23 430:25 450:20 463:22 491:16 called 455:4 494:22 565:15 566:25 calls 399:5 441:24 448:25 449:10 483:16 499:21 519:14 canceling 382:14 cap 472:18,20 capacity 378:13 431:11 442:8 484:2 500:6 504:1 566:3,7 569:25 capital 492:13 507:25 Capitol 373:3 capsule 424:18 caption 576:10</p>	<p>captive 420:6 424:23,24 captures 544:9 car 436:21 440:8 480:23 559:21 559:23 carbon 544:25 545:6,9,22,25 546:2,5,12,15 carnival 423:20 carnivals 425:3 cars 487:18 503:17,24 504:8 505:11 518:15,23 560:1,11,14,21 563:20 574:19 case 372:9 381:18 385:9 389:2,24 391:14,15 392:6 401:23 410:25 411:6,9 421:25 422:1 428:22 433:5 442:13 448:3 454:22 462:11 465:6 470:17 471:16,20 473:18,21 482:19 484:8 492:11 498:24 499:11 505:19 506:16 507:5 517:20 542:19 543:15 548:13 548:17,20 549:21 568:14 case-by-case 403:16,19,23 409:1 410:15 cases 391:8 417:22 470:14 categories 512:4 cause 438:12 576:9</p>	<p>caution 473:14 565:21 CCN 391:7 CCR 372:17 576:22 ceased 453:12 Celebrates 487:18 cell 375:9 539:15 539:18,22 540:1 cells 463:2 cent 389:7 548:4 548:9 center 373:21 416:14 490:2 491:10,12 492:6 493:17 centric 402:17 cents 389:4,12 390:4,9 500:25 501:2 559:7 Century 566:25 certain 402:15 422:3 425:21 450:8 457:4 463:25 465:16 467:9,21 566:9 certainly 376:11 450:11 452:5 457:6 460:21 462:7 463:14 474:2 476:17 481:18,21 486:11 523:5 525:10 certificated 420:22 certified 375:24 576:5 certify 576:7 certifying 376:24 cetera 469:8 Chairman 372:13 399:23 407:18 410:19</p>
--	---	---	--	---

<p>410:21 411:18 417:7 418:13 418:22 421:7 422:20 428:5 435:5,6 438:21 464:19 471:21 472:6 477:23 497:21 557:11 557:12 558:10 558:14,15,17 572:6,7,13,19</p> <p>Chairman's 408:13</p> <p>challenging 495:22</p> <p>chance 509:14 520:16</p> <p>change 380:21 386:12,15 400:2,14 416:3 418:18</p> <p>changed 418:14</p> <p>changes 378:20 431:18,20 500:17</p> <p>changing 412:22 441:20</p> <p>Character 510:12 511:5</p> <p>characterization 389:11 416:4 423:7 433:4,18 512:17 540:23 547:20</p> <p>characterize 478:2 507:15 550:12 566:16</p> <p>characterized 414:19 563:11</p> <p>charge 387:25 388:2 391:19 397:1,11 404:12 405:5 408:14 417:10 417:19 435:12 436:23 437:2</p>	<p>437:11,17,18 438:9 439:14 439:21 440:1,5 440:8,15,16,21 449:8 450:17 456:3,8,10 458:2 461:11 461:19,22 464:7,9,13 466:8 467:9 472:18 478:11 482:14,18 483:4,6 501:5 512:11 513:7 518:6 519:20 521:3 533:5 535:17 536:16 536:24 537:6 551:19 554:23 559:10,11 564:6 569:3,7</p> <p>charged 392:19 418:2 433:15 433:23,25 439:18 444:17 448:18 469:5 477:10 481:14 500:25 513:24 514:18</p> <p>ChargePoint 373:15 386:25 393:21 394:3,6 394:14 403:13 407:11,11 409:5 417:3 432:18 439:1 444:7 445:13 445:18,23 446:2,5,13,21 448:5,12 457:18,25 466:9 468:17 470:25 478:1,4 478:21 479:12 479:20 485:19 553:2 562:1</p>	<p>ChargePoint's 407:23 447:8 457:14 506:20 575:11</p> <p>charger 436:25 437:4,6 512:21 512:21 513:6 514:18,25 515:4 516:16 517:14 518:18 519:3,11 520:14 529:11 537:2,4 538:1 539:17 563:7 565:13</p> <p>chargers 387:24 415:24 440:4 505:24 512:5,5 512:6 513:1,2,3 515:9,11 518:22 519:5 519:19 522:12 526:6,11 529:5 532:5,9,18,20 533:8 534:1 538:10,11,22 538:23 539:3,4 539:22 540:1 551:25,25 552:3 563:5</p> <p>charges 458:10 483:5</p> <p>charging 372:10 379:22 381:21 385:10 386:9 386:10 387:10 387:19,21 388:4 391:19 392:18 393:22 395:13,15,17 396:1,2,3,25 398:1,12 401:16 403:10 403:11,12,17 404:3,6,8,15,22 405:4,8,13,17</p>	<p>406:3 407:3,5 408:15,16,16 409:11,14 410:10 411:5 411:24 412:6 413:11,16,17 413:18 414:2,4 414:4,5,11,20 415:4,10,17,21 416:4,9,15 418:4 420:3,14 421:10 422:8 422:15 429:16 429:22 433:19 433:20 435:12 436:12,13,18 437:10 438:8 438:12,13,14 438:16,16 439:13,22 440:2,10,11,18 444:18,20,24 445:3,7,16 448:13,17,22 448:23 450:4,4 450:9,15 451:5 451:6,18,23 453:1,25 455:11 456:13 456:17,24 457:19,25 459:8,8 461:4 464:23 465:3 466:17 467:19 467:21 468:5,8 468:11,12 469:6,20 470:10,23 471:1 472:7,14 472:21 473:6,9 474:8 475:8,13 475:15 476:25 477:11,13 478:4,15 479:12 481:12 481:14 488:20</p>	<p>489:24 490:11 490:13 491:7 492:12,21,23 493:19 495:5 495:23 498:9 498:11,17,20 499:2,7,13 501:7 505:18 507:6,7,21 508:5 512:10 512:14,14,19 515:16 516:8 516:10,22 517:17,21 518:2,15 519:23 520:13 520:18 521:2 521:23 523:1,9 523:20 524:3,4 526:11,13,19 531:24 532:4 534:4,8,9,21 537:5,10,15,16 537:21,23 538:1,5,8,18,20 539:10,14 540:2,5,7 552:17,17,20 553:21 554:4 554:17 555:2 555:19 556:13 556:15,18,22 557:4,5,17,23 557:23,24 560:1,6,11,17 560:20 561:2 561:15 563:13 563:19 564:11 564:16,23,24 565:2,4,5,6,13 565:16,22 566:20 567:2 574:21</p> <p>chargings 460:15</p> <p>Charles 398:15 458:11 480:24</p>
--	--	--	---	---

<p>480:25 chart 543:22 544:3,9,11,21 545:4 569:19 charts 567:8 cheeky 498:9 Chevrolet 503:25 504:5 517:9 527:16 528:2 530:4,22 531:7 Chevy 504:10,14 504:20,25 505:10 530:1 choose 471:9 512:12 chooses 472:19 Chouteau 373:7 circumstance 429:15 459:25 472:23 circumstances 429:24 430:7 456:15,16 460:1 462:10 463:7 469:18 474:19 475:3 478:24 citation 524:24 cite 515:14 cited 397:25 493:24 524:6 534:15,18 cites 513:16 524:9 cities 422:4 526:18,22 527:24 530:13 563:15 city 372:5 373:4 373:13,17,19 374:3,6,11 387:21 388:5,9 388:18 398:15 398:23,25 402:23,25 404:18 418:8</p>	<p>419:2 422:2 423:21 426:16 432:20 439:3 452:16 456:12 479:23 485:21 505:25 526:12 526:14,17,24 527:2,6,9,9 528:4,5,20 529:6,17 531:4 531:9,13,15 536:23 552:8 553:4 560:16 563:18 566:14 567:5 568:13 576:15 claim 395:22 550:7,14 clarifying 442:18 clause 392:13 clean 422:4 clear 565:24 close 522:14 closely 404:10 closer 535:3 Club 373:23 390:18,20 426:1 434:22 435:13 437:16 438:7 439:8,21 457:9 482:1 485:24 553:16 Club/NRDC 553:9 562:7 clusters 495:24 CNG 393:7 CO2 545:12,18 Coffman 388:15 Cole 576:4,16 COLEMAN 372:14 Columbia 445:20 456:18 468:3 469:25 472:16 526:23 527:6 528:5 529:17</p>	<p>529:22 530:7 530:12 563:23 564:2 combustion 504:1 come 390:4 420:3 462:24 480:15 518:15 542:1,5 549:13 561:2 comes 428:23 440:3 473:15 477:16 568:15 comfortable 474:24 coming 397:22 476:19 Comley 373:11 373:11 387:1,2 388:12 417:4,5 418:7 432:19 439:2 444:8,9 446:7,10,15 447:7,14,22 448:7,8 449:4,6 449:16 452:14 457:7 479:21 485:20 553:3 562:2 572:4,8 572:17 comley@ncr... 373:14 commercial 513:10 565:15 commercials 458:6 commission 372:1 374:10 374:13 376:2 378:14,15 383:3,6,10,22 385:1,16 386:17 387:7,8 387:11 388:6 388:10 391:11 392:15 393:11</p>	<p>397:5 401:7 402:16 403:9 404:2,5,22 405:12,19,25 406:4 407:2 408:21 411:8 413:12,18 414:6 417:12 420:23 421:8 421:15 422:7 422:13,21,23 425:10 431:13 444:5 446:19 450:18 451:25 453:10 455:18 455:25 460:21 461:9 463:24 475:12 476:20 480:11 481:10 482:21 485:17 486:19 498:15 499:5 505:17 509:3 538:9,21 538:25 539:9 544:5 550:8 557:16,18,20 558:7 564:25 565:1 Commission's 383:1 551:6 Commissioner 376:21 407:20 410:17,23 411:19,21 413:4,15 414:19 419:25 420:19 425:7 435:3 471:22 471:23 477:17 480:3 497:19 557:9 558:13 570:6 572:6,7 572:19 573:4 Commissioners 372:15 399:22 433:10 464:18</p>	<p>commit 394:6 committee 555:17 556:2 commutes 521:13,17 commuting 521:9 companies 467:4 468:23 471:1 498:16,25 company 372:8 373:9 385:19 391:10 397:7 401:21 402:3 419:6,14,14 422:3 433:19 435:20 439:20 458:1 461:10 464:6,8 505:22 506:8,13,17 507:5,13 508:6 510:2,15 541:10,18 company's 437:15 440:5 440:15 453:6 453:20 459:10 459:17 company-owned 510:6 compare 466:10 568:18 compared 441:1 535:17 536:16 538:10,22 compatible 554:20 compete 395:25 396:13 489:10 489:19 competition 395:1,6,7,9,10 396:10 397:20 397:23 411:13 411:16,23 412:1,23 425:8</p>
---	---	--	---	--

425:10 445:9 452:2 455:11 455:22 456:7 457:5 458:17 463:12 464:4 465:9,18,21 466:1,5,16 467:3,13,25 468:1 469:11 469:16,21 470:16 471:14 472:3,12,24 473:24 475:6 476:11,25 480:5 489:18 508:15 511:11 511:15	Comprehensive 462:14 compressed 393:9,15 408:5 408:8 462:5,23 computing 435:11 conceived 468:21 concept 427:13 480:9 conceptually 559:16 concern 400:15 453:15 467:11 467:15,17 468:1 469:10 537:25 563:14 concerned 468:10 469:12 470:8 concerning 376:14 400:2 407:14 486:21 concerns 507:1 507:11 539:10 554:3 concluded 513:22 570:25 conclusion 516:13 524:7 525:22 543:1 554:2 conducted 493:17 517:13 confidential 394:18 confirm 447:2 confusion 438:12 connect 415:19 connected 496:23 connection 411:12 conscious 448:23 consequence 452:9	Consequently 387:9 consider 402:16 417:11 455:6 456:20 480:22 538:10,22,25 539:2,6,9 546:9 565:1,3 consideration 443:8 466:25 479:1 484:20 552:13 considerations 551:22 558:22 561:9 considered 380:23 381:4 384:23 418:17 425:20,22 445:6 534:12 considering 468:8 487:25 consistent 516:14 563:10 constrains 556:4 constraint 556:23,24 557:6 construct 471:1 constructing 468:24 470:20 construction 470:10 consulted 392:23 consumed 438:20 459:10 459:17 consumer 495:23 consumers 388:15,16 475:11 478:25 479:3 consumption 457:20 459:24 460:2,4,6 contain 567:15	contained 378:23 557:25 contains 522:7 567:17 context 471:9 473:10 480:9 continuation 375:6 continue 522:24 523:7,18 556:18 569:3 continues 495:21 continuing 540:22 contract 498:23 contrary 400:4 contribution 455:5 control 438:7 controls 436:22 440:2 conundrum 558:25 convenience 408:17 409:1 421:25 convenient 537:17 conventional 547:7 conversation 482:11 conversations 401:25 422:19 425:7 convert 415:25 converter 436:22 cool 424:19 copies 447:13,20 copy 392:7 421:18 447:20 466:8 502:22 515:25 520:4 520:12 528:8 528:12 535:22 546:21 554:7	558:10 cord 539:19,20 539:22 corded 537:16 538:11,23 539:3 540:5 cords 540:2 Corporate 373:6 Corporation 453:10 correct 376:6 378:24 379:25 380:12,13,17 380:18,25 381:1,6,9,13,14 381:25 382:5,6 382:10,16,19 382:22 383:4,8 385:6 386:11 387:12 389:11 389:21,22 391:17 393:13 398:24 400:5 401:10 405:14 405:15 406:21 413:19,20,24 413:25 414:21 415:12,13,18 418:20,25 419:9,16,23 420:5 422:23 423:5,11,23 429:4 431:22 433:4 434:6 436:5 437:19 437:21 446:2 447:5 450:1 459:11 461:13 478:2,9 488:21 491:8 495:1,12 501:25 503:4 503:18,19,23 504:21,22 507:8 508:16 510:3,8,9,15,16 510:20 511:2,3
---	--	---	--	--

<p>511:7,8 512:19 513:4,13,19,25 514:5,6,23 515:2,7,11,17 516:4,5,11,12 516:17,25 517:10,11,15 517:16 519:21 521:10,11,14 521:18,20 522:1 523:2 524:21,22 526:14,25 527:17,18 528:20 529:7 529:13 532:1,2 532:6,7 533:1 534:16,17,21 534:22,25 535:1,4,20 536:18 537:7 542:2,6 543:25 544:1 545:7,8 545:23 547:11 547:20 548:4 548:23 549:4 549:10,23 550:17 551:1,2 551:14,20 553:18 555:21 555:25 556:6,7 556:10,11 565:11 567:19 570:8,9 576:12 corrected 517:4 correction 484:19 501:3 corrections 378:21 431:19 442:16 443:7 484:10,17 501:9,23 correctly 382:24 507:15 550:12 555:5 corridor 393:24</p>	<p>394:13 397:8 448:14 456:17 489:25 490:14 490:15 505:24 506:10,18 507:15 512:5 512:14,18 514:25 515:4 515:11 524:4 526:7,12 529:5 531:25 551:25 552:17 corridors 457:5 522:25 523:8 523:19 562:25 563:3 cost 382:21 386:9 389:10,18 395:14,16 396:3,24 397:3 397:10 398:1 417:9,13 419:11,15 438:15 451:7 454:19,23,25 455:4,5 460:3 464:1 468:12 470:24 471:2 472:17 473:3 495:6 496:4,7 517:20 518:1 521:1 550:23 552:11 553:24 554:17 559:5,8 559:17,22,25 560:4,6,7 564:21 567:6 568:10 cost- 461:11 cost-based 429:25 430:3,8 430:16 461:24 462:2 cost/ 522:25 cost/benefit 523:9,20</p>	<p>560:10 costs 379:23 380:11,14,16 380:22 381:2 381:11,19 382:21 384:1,9 384:15 400:21 400:25 401:7 406:5 417:20 418:15 419:4,7 419:20 429:9 429:19 455:4 467:21 468:9 469:24 493:20 507:7 547:24 548:15,22 554:24 559:4 559:16 561:6,6 Council 373:24 388:15,17 555:9 556:9 counsel 373:6 374:4,4,7,9 375:13,19,23 390:23 392:23 400:8 402:3 408:23 426:3 434:25 441:3 447:17,19 455:21 458:22 460:13 461:1 463:16 482:3 482:11 486:2 498:2 499:21 500:7 505:16 506:15 520:6 549:16,21 551:11 558:5 Counsel's 380:5 388:9 460:22 548:8 Counsel/Electric 374:9 counting 398:17 398:19 country 488:2</p>	<p>county 376:19 377:3 398:16 486:15 576:4 576:16 couple 380:20 439:10 515:13 coupling 565:7 565:12,22 course 376:13 444:14 463:17 courses 449:19 court 378:9 431:6 442:5 483:23 500:3 cover 468:9 507:7 559:4 560:3,6 561:6 568:10 covered 419:5 covering 467:20 covers 455:3 568:17 create 468:6 474:9 476:17 479:11 490:9 created 476:14 credit 488:16,24 criteria 403:22 cross 379:14,15 386:24 388:14 388:18 390:14 424:4 432:14 432:15 444:2 485:14 502:5 502:13 552:25 cross-examina... 379:17 387:2 388:23 390:24 432:25 444:1,9 452:18 457:11 458:24 483:1 485:13 486:5 502:16 553:12 572:4,4,5,5,12 572:17,17,18 572:18,23</p>	<p>573:3,3 crossed 476:2 CSR 372:17 576:22 cures 400:15 current 401:5 409:13 410:23 411:9 415:24 415:25 416:6 416:10,12,23 416:24 475:9 492:15 500:21 500:22 548:6 currently 408:1 409:21,24 413:23 445:6 524:12 525:23 535:7 539:7,14 549:6 569:16 customer 388:1 389:12,13 390:4,10 404:12,15 418:3 419:11 420:4 440:7 455:3 493:21 495:7 510:20 510:25 548:4,6 548:10 566:13 customer-owned 510:24 customers 388:1 389:3 393:3 399:13 402:15 402:17,21 403:4,5 405:23 418:3 419:22 420:6,8 424:24 427:1,2,3,17 428:1,1,3 436:5 437:25 439:13 439:23 445:19 448:23 451:16 457:18,25 459:9 461:4,12 461:19 479:8</p>
---	--	--	---	--

488:7 492:19 492:23,24 548:2 549:3,8 549:14,17,18 559:19 563:22 569:2,23 customers' 417:10	569:19,22 DCFC 505:23 506:9,18 507:14 522:24 523:7 526:6 528:19 529:4 529:11 532:9 532:12,15 535:17 536:16 537:1 DCFCs 523:19 563:2 DCFS 501:5 DE 461:23 DE's 427:5 462:4 489:7,17 dealers 559:23 deals 518:14 decal 486:25 487:13 550:23 decals 377:2 487:7 568:10 568:23 decides 387:18 387:24 deciding 421:8 decision 400:3 448:23 449:9 452:1,4,6,10 455:25 482:20 498:16,19 decisions 449:7 449:21 455:19 decline 545:1,11 545:19,21 546:1,3,7 decrease 542:20 542:23 544:21 545:15 decreases 544:25 DED 375:2 443:23 575:12 575:14 dedicated 420:5 Defense 373:24 deficit 429:18	define 429:14 459:14 definitely 411:16 414:10 472:9 475:5 562:22 definition 459:19 definitively 468:15 degree 425:21 delete 442:20,21 484:15 deleterious 471:13 deliver 493:20 495:6 510:14 delivered 554:24 demand 409:10 460:11 492:15 496:3,3,16 540:20,22 541:6,14,20 demonstrated 516:22 demonstration 534:19 department 374:1 375:24 376:12,24 442:10 484:4 486:8,20 487:5 503:3 505:7 550:21 560:19 568:16 574:18 depend 471:20 478:23 depending 377:19 403:16 463:6 471:18 depends 424:15 450:7 457:3 459:25 depicted 544:20 depicting 545:18 deployment 445:16 462:5 492:12 495:1	547:6 deposition 514:2 524:17 525:11 526:16 527:1 527:20 529:15 530:16 531:2 535:23 536:5 537:9 depreciation 380:16 Deputy 374:4,9 deregulation 476:9,14,22 477:2 derived 380:10 381:20 386:8 507:6 describe 376:9 537:6 described 535:10 describes 512:4 describing 420:12 503:16 designated 393:23 designed 391:19 496:25 514:23 desired 411:23 412:1 Despite 516:8 destination 512:5 512:14,19,21 512:22 513:1,6 514:18 516:16 551:24 destroyed 452:9 deter 472:20 determination 561:14 determine 403:9 522:25 523:8 523:20 564:10 determined 400:9 524:18 determines 557:21	determining 401:20 481:21 deterrent 472:24 detrimental 422:16 develop 395:14 396:25 398:2 457:1,6 534:24 developed 434:15 developing 481:15 development 374:1 442:11 464:4 484:4 488:19,20 492:13 498:12 499:8 553:21 554:20 555:1 devices 375:9 538:2 539:14 541:9 diesel 462:24 Dietrich 378:3,6 378:10 379:18 386:16 387:3 388:24 390:25 399:24 417:7 418:12 421:6 421:18,23 426:9 429:7 430:20 572:3 574:9 difference 380:11 385:22 401:4,9 402:19 413:16 419:6,7 419:14,20 427:20 429:12 470:6 473:20 512:13 differences 512:18 519:23 520:13,17 different 403:6 404:25 420:1
--	---	--	--	--

420:11,11 428:18 435:10 436:16,24 438:5,11 455:24 459:19 463:4 465:16 471:16,19 474:12,19 477:12 495:4 495:16 496:24 565:8 568:5 differently 432:2 468:21 difficulty 377:17 diminish 453:6 453:20 dioxide 545:1,6 545:10,22,25 546:2,6,12,16 direct 378:7 387:3 415:25 416:11,23 431:4 442:3 444:10 448:10 452:19 457:12 483:21 500:1 500:20 501:11 502:24 508:3 509:24 513:15 517:19 527:13 528:1 529:1 555:18 572:3 572:12,16,22 573:2 directing 387:8 556:5 directions 565:9 directly 427:25 477:14 563:1 director 378:15 383:1,4 disadvantages 537:11,14,21 disagree 460:20 discipline 444:17 449:25 450:3	disciplining 450:9 458:15 discourage 559:9 discretion 557:22 discuss 465:7 discussed 397:23 426:11 514:9 526:17,23 527:24 discusses 514:13 discussing 421:6 425:8 463:15 discussion 409:18 410:22 475:4,21 477:24 525:6 526:20 568:24 discussions 388:8 disproportiona... 549:2,7 disputes 556:17 distance 505:18 515:1,6 522:12 524:4 527:2,5,8 529:21,23 530:17,19 531:3 562:24 563:4 570:4 distances 521:9 521:24 526:17 527:23 529:16 distinction 406:1 406:8,20,22 413:10 440:20 468:25 474:7 477:16 distinguish 467:17 distinguishing 435:21 distributed 376:1 421:19 distributing 416:6 distribution 406:2,9,16	414:20 415:2,6 415:8,16,20 416:5,14 436:7 436:11,14 469:7 495:24 521:9 diversification 462:7 498:10 Division 375:12 377:17,20 383:2 388:22 421:3 432:23 439:6 441:14 441:24 442:11 445:12 447:9 448:16 450:25 451:25 452:7 452:24 456:11 457:15 465:2 465:11 472:6 473:4,22 474:24 476:21 482:6 483:16 484:5 497:23 553:7 562:5 572:15 574:23 Division's 464:22 471:15 docket 473:11 556:17 566:23 document 376:23 421:24 422:6 422:12 486:7 487:4 491:19 497:11 509:25 510:1,18 515:21,24 523:13 567:16 documentation 428:24 documents 447:24 503:3 508:25 DOE 485:10 567:18 doing 398:3	433:3 451:10 451:14 dollars 433:15 435:16 549:22 domain 407:4,9 407:12 420:20 420:24 Dority 373:16 double 483:7 doubt 397:13 514:3 537:20 Douglas 553:16 downward 495:8 Dr 502:17 507:18 509:24 512:3 515:24 518:19 520:11 522:3 531:19 535:23 536:21 538:15 539:13 540:11 545:23 546:21 547:11,14 551:10 552:24 562:11 570:13 draw 405:25 406:20,22 451:16 554:2 draws 413:10 drive 480:14 481:1 552:7 559:15 driven 376:15 425:14 426:14 521:9 524:20 525:13,21 526:2 driver 477:7 478:9,11 522:15 526:5,5 554:24 563:9 569:10 drivers 440:17 457:19 468:22 479:6 480:19 482:14,18 490:17,25	498:4 512:10 518:13 559:10 564:10,14 568:19,20,23 driving 480:22 480:24 481:5 516:23 529:16 529:25 536:22 due 472:21 495:22 570:21 570:22 duration 507:3 dwarf 567:4
E				
E 375:1,1 572:1 576:1,1 E-- 556:23 e-mail 503:9,10 503:13 earlier 385:21 389:16 397:9 450:6 463:16 501:8 502:21 earn 384:3,5,11 454:3 easier 433:21 570:4 East 373:3 easy 469:21 eat 419:7,14 economic 374:1 391:9 442:11 449:21 484:4 economics 449:18,19 economist 431:13 489:22 500:8 economy 449:17 edits 442:18 educate 559:23 education 559:15 effect 382:14 400:17,22 470:25 471:5 471:13 548:20				

<p>effective 559:25 560:7 effectively 444:17 563:3 efficiency 402:13 460:7 496:5,10 eight 488:4 eighth 480:17 either 388:9 390:21 433:14 438:3,3 508:8 522:2 528:2,5 530:6,23 531:8 elaborate 425:16 electric 372:8,9 373:9 376:16 376:21 379:22 386:18 387:9 392:18 401:15 406:11 411:8 412:19 414:2 415:4,11 416:16,19,20 417:10 418:24 419:18 420:13 421:9 422:8,15 427:17 428:11 428:16 433:20 448:12 456:24 463:3,19 469:9 474:25 475:11 475:12,15,17 475:19,25 476:22,25 477:7,11 478:8 478:15,16 479:6,11 480:19 482:14 486:21 487:8 488:2,7,19 491:6 492:15 498:4 499:6 503:17,25 504:13,18 505:3,18,23 508:5 510:14</p>	<p>512:9,22 513:7 513:24 514:17 515:5,16 516:16,24 517:3,25 518:14 519:2 519:10 522:15 524:13,20 525:13,24 526:11 529:5 529:11 531:23 533:5 536:22 537:7 540:6,7 540:19 541:1,8 541:21 542:1 544:17 546:1 546:13,14 547:6 548:2,6,7 550:9,15,22 551:4,13,18,23 552:7 554:17 554:23 556:3 557:23,24 563:19 566:20 567:2 568:22 569:9 574:3,5 574:19,21 electricity 388:11 403:18 404:5,9 404:16,17,17 404:23 405:10 405:13,22 408:24 410:1 410:24 412:9 412:13,15 413:20 414:11 415:24,25 416:7,20,23 417:9,18,21 424:13,19 438:19 440:25 462:22 467:6 473:8,16 474:6 474:21 475:10 477:6 493:20 495:6 511:7</p>	<p>528:3 540:21 541:9,14,15 543:22,24 544:25 552:12 553:24 556:4,5 559:8 561:1 electronic 538:2 eliminate 553:24 elimination 411:14 embed 417:9 embeds 417:13 emerging 451:22 565:4 eminent 407:4,9 407:12 420:20 420:24 emissions 545:1 545:13,22,25 546:3,6,12,16 547:7 employed 378:12 431:9,10,12 442:7,9 484:1,3 500:5 en 515:7 528:6 530:8,14,25 531:9,15 enable 563:4 enabled 563:15 enclosed 424:18 encourage 460:15 488:19 encouraged 463:12 encouraging 476:22 encumber 422:3 encumbrance 422:8,14 ends 547:20 energy 375:12 377:20 388:22 402:13 421:3 432:23 439:6 441:14,24</p>	<p>442:9,11 445:13 447:10 448:16 451:25 452:7,24 456:11 457:15 457:20 459:10 459:16 460:7 462:15 472:7 473:22 474:24 482:7 483:16 484:5 497:24 524:11,18 525:6,11,17,22 541:10,24 542:5 543:6 544:18,21 546:2 553:7 554:24 562:5 Energy's 377:17 473:4 476:21 572:15 574:23 enforce 388:4 engaged 388:5 477:24 engagement 554:21 England 373:2 ensure 492:14 541:25 enter 452:1 entered 421:20 entire 488:2 503:7,12,14 516:3 entirely 462:25 469:14 542:12 entirety 542:18 543:13 entities 412:7 425:20 445:5 496:24 entitled 510:1,19 524:10 entity 400:9 404:7 409:15 410:10 412:11</p>	<p>414:25 415:3,3 415:14 489:10 489:20 506:19 560:25 entrepreneur 468:7 environment 505:14 environmental 373:21 546:10 546:19 EO-2011-0090 421:15 equal 382:9 386:9 390:11 546:5 equally 540:25 equipment 395:9 397:24 398:5 422:4 538:6,18 554:17 equity 547:17 equivalent 566:14 equivalents 545:6,10,18 err 518:21 error 447:19 errors 434:18 especially 383:10 396:20 522:24 523:8,19 essential 456:20 essentially 400:18,22 470:22 565:8 establish 473:7 established 529:20 530:17 establishing 404:24 estimated 390:3 estimates 527:21 et 469:7 ET-2016-0246 372:9 375:7</p>
--	--	--	--	---

<p>ethanol 462:24 EV 387:19,24 391:24 399:3 427:21 436:18 444:17 445:16 455:11 456:13 459:7 460:15 461:19 468:22 468:24 470:10 470:20 471:1 481:12 488:19 488:20 489:24 490:11,17 492:12,21 493:19 498:11 498:17 499:13 518:13,15,23 555:18 556:25 557:6 559:10 559:12,20 560:1,21 561:15 564:10 564:14 565:16 evaluating 538:5 538:17 EVCS 445:18 EVCSs 389:5 390:1 445:19 453:5 454:9 event 423:14 429:17 eventually 481:11 everybody 409:4 410:6 420:2,17 451:13 483:5 509:13 evidence 375:25 377:10 379:12 385:4,7,12,15 385:24 386:19 428:7,14,14 432:12 443:24 444:15 447:8 448:6 449:11 468:14 485:11</p>	<p>497:11,18 502:4,12 511:20 512:1 563:21 570:16 570:23 572:2 572:15 573:1 evidentiary 375:6 evolution 426:11 EVs 459:9 487:20 494:11 495:24 560:24 561:1 563:22 569:23 EW 473:10 EW-2016-0313 566:23 exact 475:2 exactly 381:16 465:23 559:17 Examination 378:7 426:8 429:6 431:4 442:3 482:9 483:21 497:25 500:1 562:10 572:3,10,10,12 572:16,21,22 572:23 573:2,4 examined 475:2 example 401:13 417:8 419:1 420:13 460:6 462:17 464:2 467:3,8,9 472:2 480:23 490:12 517:18 549:20 565:6 examples 463:11 513:1 exceed 382:21 386:9 553:25 exceeding 493:20 exceeds 419:12 495:6 566:10 excess 549:3</p>	<p>566:3,7 excessive 553:23 554:4 exchange 456:1,3 456:4 463:25 exclusive 465:9 exclusively 513:24 514:18 528:3 excuse 401:18 445:25 507:2 514:10 536:8,9 544:7 548:3 excused 430:22 441:11 483:12 exempt 412:25 exempted 414:2 exercise 421:9 exhibit 376:5,7 376:15 377:4,8 377:9 378:18 379:6,9,11 387:4 421:19 431:16 432:6 432:11 442:14 447:20 457:12 466:7 485:10 486:7 491:24 492:2 497:12 497:17 502:21 502:25 509:8 509:17,20 510:1,6,11,12 510:18,23 511:20 520:17 574:3,5,8,10,14 574:16,18,20 574:24 575:1,4 575:8,12,13 exhibits 375:2 442:17 443:17 443:23 446:8 446:13,17,18 447:10 448:5 484:8,11 485:4 500:10 502:4</p>	<p>502:10,11 509:21 511:25 574:1,7,13,23 575:11 exist 465:20 466:22 560:13 existence 560:10 existent 463:1 exists 496:2 expect 386:8 394:21 508:1 544:19 545:9 545:14,17 expected 512:23 541:20 expedited 570:19 expenses 384:22 385:20 392:17 400:12 expensive 517:18 537:16 539:3 551:20 experience 412:18 428:13 449:20 507:24 experiencing 494:1 expert 383:20 401:14 499:10 experts 401:14 explain 400:6 402:7 453:18 454:12 480:11 explained 426:25 explore 380:19 exponentially 498:20 expressed 453:15 506:8 566:19 extending 419:12 extensions 563:4 extensive 516:8 extent 380:10 450:12 451:19 453:25 456:8 459:18 469:15</p>	<p>469:18 470:15 479:2 481:6 extra 447:13 493:2</p> <hr/> <p style="text-align: center;">F</p> <hr/> <p>F 576:1 face 555:12 facilitate 459:8 465:18 515:5 facilitated 476:17 facilitating 467:3 facilities 415:7,8 415:9 facility 416:15 424:20 511:1 facing 559:1 fact 413:22 433:6 436:17 440:23 444:16 460:9 475:16 482:18 488:23 492:20 495:21 519:23 520:18 538:1 541:6,13 544:16 550:14 552:2 556:21 557:3 560:13 568:12 factors 421:7 489:23 facts 449:11 522:2 failure 453:5,19 fair 376:23 384:3 384:11,23 410:2 423:6,14 423:16,19,19 424:9 433:17 439:25 440:5 440:11,15 445:4 452:10 453:24 491:16 514:9,14 525:21 540:23 550:10</p>
--	---	---	---	--

fairer 439:13,21	February 570:20	465:22 485:14	431:3 442:2	409:16
fairly 383:19	570:21,22	502:13,24	483:20 499:25	free 395:15 396:2
458:18	Feddersen	509:24 510:5	525:23	397:1,11
fairness 452:7	372:17 576:5	548:1 554:23	food 424:1,1,13	448:17 450:16
familiar 383:12	576:22	Fischer 373:16	424:16,18	451:18 470:22
391:15 413:22	federal 549:9	373:16 388:20	foothold 451:23	471:6 490:13
416:2 423:13	555:18,19	418:10,11	footnote 446:1	570:5
423:16 429:25	556:4	421:1 426:10	487:15,16	frequently
430:12 459:22	fee 387:25	427:14,24	491:3 534:15	522:13
480:14 491:22	408:14,17	432:22 439:5	534:19 554:13	fret 480:17
512:6	409:1 448:18	452:18 479:25	567:14	front 397:13
familiarize	457:20	480:2 481:25	footprint 409:12	546:22
421:23	feel 397:7 492:21	485:23 553:6	foregoing 576:12	fuel 393:6 408:6
far 381:21	fees 457:25	562:4 572:9,17	foreseeable	408:9 462:8
414:16 416:8	felt 433:21	572:20	541:7	463:2,8 481:9
426:11 434:3	festival 423:20	five 458:7 526:11	Forgive 391:2	486:25 487:7
434:15 437:9	424:2,14	567:3	form 463:2 537:8	488:15,23,25
438:8,15	festivals 425:3	five-mile 531:24	formalities 391:4	541:19 543:24
440:22 569:15	fewer 513:19	fixed 405:8 455:5	formally 489:21	550:23 553:24
570:16	545:22	460:3	forms 475:6	559:22 566:1
fast 438:8 440:4	figure 504:24	fixture 510:8	forth 398:4	568:10
505:23 519:4	figuring 465:23	fixtures 510:14	400:13 411:22	fuels 462:13,16
526:6 529:4,11	file 375:6 421:15	flat 408:14	576:10	462:17,18
556:15,21	filed 378:17	fleets 408:3	forward 507:13	540:22 541:11
557:3	392:5 442:13	Florence 472:15	566:17	541:15 542:16
fast- 415:23	484:7 558:6	473:6	fossil 540:22	542:21 544:20
435:11 468:4	filing 387:8	focus 466:19	541:10,15,19	544:24
fast-charge	392:14	472:13 478:22	542:16,21	full 395:14
393:24	fill 420:15 436:19	505:14 510:17	544:20,24	396:24 397:10
fast-charger	final 499:20	530:2 550:4	566:1	397:25 398:1
537:1	554:25	560:23 565:23	foster 556:5	428:16 442:4
fast-chargers	find 434:17	focused 495:3	found 422:13	481:2 483:22
440:16 506:18	494:2 495:16	focuses 478:8	493:15,18,23	564:25 576:12
522:24 523:7	564:16 566:22	565:12	495:4 522:12	fully 439:15
528:19 532:9	569:11	focusing 478:11	563:3,18	440:8 442:21
532:12,15	finding 522:18	531:21	foundation 424:5	443:4 454:24
535:18 536:17	fine 376:4 391:5	folks 466:14	four 389:4,13,25	464:2 475:2
fast-charging	441:23 509:12	471:8	390:5,10	535:17 536:16
436:13 500:21	509:15 525:1	follow 411:19	398:17 495:4	function 522:14
501:1 506:9	firm 576:6	follow-up 410:20	542:8 545:6,14	563:8
507:14 569:19	first 378:1	482:8	560:1	fund 561:5
569:23	379:15 386:19	following 381:21	four-year 542:12	fundamental
faster 436:18	389:25 409:18	407:23 408:13	frame 496:22	512:13,18
437:3 519:20	432:15 441:18	410:22 417:6	franchise 409:13	560:21
537:4	444:2 455:17	472:1 479:25	410:10	fundamentally
feasibly 463:5,6	458:3 463:17	follows 378:6	franchises	474:20 475:14

furnish 510:13	general 403:15	468:2 506:20	good 375:4	412:11 424:15
furnishes 510:25	404:20 408:10	518:23 547:4	379:18,19	459:14 490:9
further 375:8	409:4 428:12	559:23 576:15	388:24,25	gymnastics 560:8
377:11,13	462:11 465:17	gives 457:24	390:25 391:1	
386:22 387:21	467:2 473:17	giving 558:6	399:24,25	<hr/> H <hr/>
387:22 390:13	474:15,17,22	glasses 396:21	407:21,22	H-y-m-a-n 442:6
399:18 407:18	533:4,12,20	go 399:12 420:14	433:1,3 435:7,8	habits 515:16
410:21 411:21	549:21 562:23	421:21 441:12	452:14 458:25	half 437:6 568:15
417:1 425:24	generally 383:17	446:9 453:4	459:24 464:20	Hall 372:13
430:18 434:21	383:21 384:7	454:7 455:9	464:21 469:17	399:23 407:18
438:22 441:2	384:13,20	464:11 490:3	471:24,25	410:19,21
453:12 479:16	387:10 391:15	494:1 499:3	472:10 490:8	411:18 413:15
483:8 499:15	392:3 394:19	503:15 509:10	494:24 502:17	414:19 417:7
511:4 512:8	401:24 403:18	543:11 560:14	502:18 557:13	418:13,22
513:21 517:12	404:11 410:13	561:4 562:22	557:14	419:25 420:19
522:12 545:12	425:17 444:25	564:15 567:24	goods 424:14	421:7 422:20
552:23 557:8	459:22 564:15	568:14	Google 495:16	435:5,6 438:21
572:7,7	generate 541:15	goal 464:23	gorging 501:14	464:19 471:21
Fusz 458:1,5	543:24 544:25	470:11 481:15	501:16	477:23 480:3
future 381:18	generated 473:8	481:16 559:12	gouging 501:15	497:21 557:11
385:8 492:15	generates 541:10	goers 424:14	govern 383:13	557:12 558:10
494:12 541:8	generating	goes 390:18	government	558:13,14,17
565:19	474:14 543:21	409:9,17	464:3	570:6 572:6,7
Fuzz 458:5	generation 415:7	419:19 450:6	government-set	572:13,19
	415:15 541:19	going 386:12	463:11	573:4
<hr/> G <hr/>	542:21 546:1	392:2,9 399:4	granted 455:23	Halso 390:15
G 375:1	546:13 547:4	401:16 424:3	480:20	hampered
G-e-o-f-f 500:4	Geoff 499:22,25	426:9 429:20	granting 506:15	397:10
gallon 559:16	500:4 502:4	432:5 436:13	graph 545:5	hand 376:2
garage 387:19	573:2 574:15	437:4,7,12	556:8	447:15 490:9
Garden 409:7	574:17	438:14,18	gray 414:8,16	491:20 494:6
Gardens 410:6	geographic	440:24,25	Great 373:21	528:11
gas 391:13 393:5	466:19 468:3	445:24 449:8	greater 398:14	handed 446:16
393:5,6,9,15	472:13	451:21 454:20	greenhouse	447:20 515:25
407:25 408:5,8	germane 522:19	467:16 468:9	547:7	517:5 521:8
462:5,23,24	getting 377:18	468:10,15	grid 474:3,10	523:13
470:21,22	392:3 405:2	470:24 471:4	496:13	handful 569:17
480:15,18	408:23 410:12	475:8 477:4,13	gross 549:3	handing 508:24
547:7 559:16	414:7,16	478:23 480:21	group 517:13	515:20
gasoline 547:8	417:24 451:23	481:21 491:20	grown 498:19	happen 453:9
550:15,16,24	477:9 481:11	494:6 498:24	growth 452:2	475:21
553:25	518:25 570:1	499:3 512:10	494:13,23	happens 491:13
gasoline- 568:18	give 384:10	513:8 519:13	523:16 540:19	happy 384:19
gasoline-power...	403:22 424:6	520:5 528:11	541:1,6,13	hard 493:11
480:23 545:17	463:13	533:3 561:16	551:13 556:6	495:14 547:17
545:18 546:3	given 446:4	570:1	guess 408:24	563:6
568:20				hardship 548:10

<p>harmless 427:4 Harry 374:2 head 391:12 430:10 heading 510:12 510:23 511:5 565:20 569:25 healthy 456:7 hear 393:24 489:14 561:10 heard 472:5 488:6,9 hearing 372:4 375:6,10 377:7 421:11 432:9 441:22 443:21 448:2 453:15 454:16 465:22 485:8 497:15 502:9 561:13 570:25 hearings 409:19 heart 538:2 heavily 463:18 heavy 496:22 held 383:11 427:4 help 410:14 428:24 464:3 490:18 492:14 493:5 helping 490:9 HENRY 373:20 hesitate 475:15 hiatus 498:18 high 374:2 532:5 532:15 533:19 533:22 higher 456:8 466:17 504:15 549:13 highlight 563:2 highlighted 397:15 highlights 472:25 highway 472:15</p>	<p>515:1 hold 455:14 home 401:17 461:19,22 477:9 481:4 482:14,19 483:5,5,7 513:2 513:24 516:10 517:14 518:6 519:3,12 521:1 521:4,23 524:3 533:4 552:3,21 556:18 559:11 569:3,7 homes 518:23 honest 401:22 443:13 469:15 474:12 484:25 Honor 375:17 388:21 395:18 396:11 426:7 435:2 446:7 447:7,18 477:21 502:15 509:2,16 511:19 515:19 520:7 hooked 415:11 hope 544:23 Hopefully 570:2 host 395:14 396:1,25 398:2 404:14,14,15 448:22 512:12 563:7 hot 424:18 hour 404:23 405:6,9 408:16 418:2 433:7 437:6 438:4 439:14 440:1,6 457:20 458:8 458:11 466:9 466:12 500:22 500:23 501:1,4 501:6 559:7,17</p>	<p>hourly 458:10 hours 433:14 435:16 437:5,5 439:19,22 440:21 512:23 533:9,16,23 551:18 house 419:12,13 Household 513:17 514:4,7 514:12 households 547:19 huge 494:22 hybrid 504:8 hybrids 504:2 Hydrogen 462:25 Hyman 441:17 441:25 442:2,4 442:6,7,12 444:10 446:16 448:10 449:18 452:19 458:25 463:10 477:23 482:10 483:11 489:2 490:24 494:16 572:16 574:25 575:3 hypothetical 381:15 387:14 393:14 407:24 423:13 429:9 452:3 hypothetically 424:12 451:13</p> <hr/> <p style="text-align: center;">I</p> <p>I-70 393:23 394:12,20 398:22 402:22 490:12 505:24 506:9,18 507:14 512:10 526:7,12 528:19 529:5 529:12 560:14</p>	<p>Idaho 515:15,25 516:20 520:25 521:7 522:11 522:23 523:6 524:6 562:12 562:19,23 563:12 idea 399:2 407:7 428:11 IDENTIFICA... 375:3 376:8 446:14 492:3 509:22 identified 537:14 537:24 identify 446:8,18 II 484:5 illegally 410:1 illustrate 565:6 imagine 451:8 impact 382:17 434:2,3,9 436:7 436:11,14 495:21,23,25 impactful 436:12 438:17 impair 452:2 impaired 452:9 implement 415:9 implications 380:20 important 427:12 437:24 437:25 466:25 481:15,17 552:19 556:13 556:14,14,22 557:4 569:7 impossible 528:2 impression 518:12 improper 465:25 improving 496:5 496:10 imprudently 386:3,20</p>	<p>imputation 380:7 380:9 382:14 382:23 389:9 389:20 390:9 391:6 400:25 423:3 426:12 426:13 imputations 427:16 impute 382:9 385:15 386:3 401:9,21 419:6 419:13,19 imputed 380:12 385:10 386:18 391:11 393:3 incentive 453:6 453:20 incentives 454:5 inclined 559:11 include 377:1 380:15 400:12 453:5,19 462:16 500:20 503:24 504:2,8 509:11 510:7 522:2,5,19 544:3 included 381:8 381:12 400:23 400:24 401:24 404:19 406:5 406:18 453:1,3 454:1,18 504:9 504:14 505:10 527:25 547:25 548:15 includes 462:18 488:24 490:20 504:20 521:8 inclusion 454:8 455:10 income 401:21 549:3,13 incomes 549:8 incorporated</p>
---	--	--	--	---

401:2 incorrect 550:20 increase 382:3 411:13,15 460:5 496:2 540:20 541:20 542:4 increased 401:13 401:16 541:21 546:14 increases 401:15 493:19 544:22 increasing 459:9 459:16,23 460:2,4 incremental 389:10,18 442:22 443:5 454:23 455:3 incumbent 456:1 456:2,4 463:22 472:19 incumbent's 464:1,10 incurred 384:1,9 incurs 386:9 independent 434:8,12 independently 416:9 indicate 452:23 467:11 indicated 402:2 413:15 418:13 418:21 478:13 indicates 382:25 517:20 indicating 397:16 indicative 458:14 individual 409:16 419:11 419:21 434:4 436:21 438:15 438:18 489:23 individuals	405:17 468:23 induce 560:11 inductive 537:5 537:10,15,21 537:23,25 539:14,17 564:23,24 565:2,3,6,7,22 565:22 industry 419:18 425:14,19 455:23 494:21 inequitable 454:9 infinitely 559:25 information 394:19,22 409:8 428:21 438:6 439:24 490:20 503:21 520:22,23 521:8 522:20 567:15,17,22 567:25 569:14 574:18 infrastructure 406:1,2,17 473:2 488:15 491:7 492:14 498:12 516:9 523:1,9,21 550:11,17,25 551:5 555:2 556:24 562:24 568:11,22 574:21 infrequent 472:22 inhibited 395:12 489:8,9 inhibits 395:1 569:23 initial 570:20 initially 454:18 inordinately 439:15	inquiry 561:17 install 387:18 393:22 394:6 394:11 454:5 505:22 506:17 507:8,22 510:13 515:10 526:7,11 534:10 535:18 536:17 538:6 538:12,19,24 566:20 installation 453:12 516:8 installed 471:4 517:13 518:1 519:11 521:1 installing 394:4 506:8 523:1,9 523:20 installs 511:1 instance 386:17 402:13 404:13 425:18 instances 425:9 institute 491:15 559:5 instructed 450:25 integrated 463:18 476:4 547:5 intends 526:7 intent 566:19 intention 448:19 509:3 558:24 interest 422:16 506:8 interested 475:6 481:10 552:8 566:16 567:24 interesting 488:11 498:13 interfere 452:1 538:2 internal 504:1	internally 465:7 International 491:11,13 492:7 493:18 Internet 490:1 interpretation 405:3 406:25 410:13 414:17 417:25 511:18 interpretations 414:9 interpreted 505:7 interstate 515:1 531:25 556:15 556:21 557:3 intertwined 469:3 invest 507:25 investigate 551:10 investing 499:12 499:12 investment 381:7 399:14,14 400:12 402:13 452:25 460:8 507:20 534:11 555:19,20 561:7 investments 380:17 392:17 427:24 453:7 453:21 555:18 investor-owned 383:14,23 386:18 475:20 544:4,17 investors 391:11 492:14,20 involved 456:13 517:9 564:21 involvement 491:6 492:11 494:11 574:21 involves 467:20	involving 417:8 429:9 543:5 IOU 492:9 IOUs 492:7,12 irrelevant 560:12 island 406:3,9 526:14 islands 394:12 512:11 534:9 534:11 issue 395:6,7 402:5 405:7 409:23 411:9 417:23 420:1 433:5,8,18 466:4,16 477:25 481:7,7 481:23 issues 425:13 470:2 568:5 item 419:21 items 424:1,13 <hr/> J J 372:14 374:1 575:5,9 JAMES 373:16 January 372:4 375:5 514:2 Jefferson 372:5 373:4,13,17 374:3,6,11 398:25 402:23 526:14,23 527:9 528:5 529:17 531:3,9 531:13,15 536:23 552:8 576:16 Jester 553:16 554:3 Jester's 554:7,14 jfisherpc@aol... 373:18 Johnson 373:6 432:17 444:4 485:16 497:14
--	--	--	--	--

528:11	509:13,18	568:14	559:21 560:16	law 372:12 373:2
Judge 372:12	511:21,23	keep 391:10	563:24 567:6	373:11,16,20
375:4,20 376:4	515:22 518:9	keeping 484:15	567:20 569:15	373:21 374:1
376:9 377:5,7	519:16 520:9	keeps 376:12,13	570:16	383:24 388:4
377:11,15,21	536:2 543:2,8	Kellene 372:17	knowing 405:20	400:4 406:25
377:24 378:5	552:25 553:2,4	576:5,22	knowledge	414:17 463:20
379:7,9,15	553:7,9,11	kilowatt 404:23	378:25 431:23	476:3 544:19
386:24 387:1	557:9 561:21	405:6,9 408:16	443:13 485:1	lawful 418:19
388:14,22	561:24 562:1,3	418:2 433:7,14	497:5 502:1	426:20
390:14,19,23	562:5,7,9	435:16 438:4	527:20 541:18	laws 409:13
394:7 396:5,15	570:12,15	439:14,19,22	known 391:3	452:12 455:18
396:18 399:6,9	July 423:22	440:21 457:20	knows 518:10	465:23
399:18,21	424:18	501:1 534:20		laying 424:5
410:19 413:4,5	jurisdiction	559:7,17	L	leading 555:2
417:3,4 418:8	388:11 403:10	kind 394:17	L 373:2	leads 428:4
421:3,21 424:6	403:11 404:2,6	404:24 405:2	lab 534:24	Leaf 527:14
425:25 426:3,6	404:22 405:12	414:7 469:1,4	562:23 563:12	528:3 530:1,10
430:19,23	405:19 406:4	470:4 474:11	Lab's 562:12	530:23
432:7,9,15,18	406:14 407:3	560:9	labeled 431:16	Leafs 517:9
432:20,22,23	421:9 435:18	Kingdom 398:23	Laboratory	leeway 424:7
434:22,25	551:7 556:3	knew 399:8	515:15 516:1	left 474:20 481:3
435:3 438:23	557:16,19,22	know 393:16	516:21 520:25	543:23
439:1,3,6,8	558:21,23	405:4 407:10	521:7 522:11	legal 374:9
441:3,6,8,12,15	561:10,15	407:13 408:1,3	522:23 523:6	383:12,16,18
441:19,22	justification	409:3,7 410:5	524:6 534:20	392:23,23,24
443:16,19,21	423:2	411:15 412:2	535:16 536:15	400:15 405:2
444:2,5,7,8	justify 428:24	417:22 420:20	562:20	405:25 410:12
446:9,12	547:17	420:25 428:23	Laboratory's	414:8 417:24
447:12,16,23		430:17 433:22	565:18	543:1 557:15
448:2,7 449:2	K	444:19,23,25	lack 556:24	558:20 561:13
449:12 452:16	K 372:17 576:5	445:2 462:20	557:5 569:22	561:14
457:8,9 458:22	576:22	465:5 466:7	Laclede 393:5	legally 542:20,23
464:17 471:22	Kansas 373:19	467:14 471:19	408:5,8	lend 558:12
477:19 479:18	388:18 404:18	477:1 490:1,1,4	lag 548:19	length 513:19
479:20,23	418:8 419:2	490:11 495:13	Lambert 387:18	514:15 568:14
482:1,3,6,23	422:2 426:16	498:14,22	387:20	Lera 374:4
483:2,10,13,19	432:20 439:3	504:9,11,19	lamp 510:7	375:18,22
485:3,6,8,14,17	452:16 453:9	505:9,11 518:3	land 470:23	458:25
485:19,21,24	453:10,13	523:10 532:17	landowner 473:5	let's 381:17
486:2 489:13	456:12 479:23	533:2,7,10,11	language 410:8	470:20 472:14
491:25 493:1	485:21 528:20	533:14,18,21	411:11 414:10	484:12 557:20
497:12,15,19	529:6 553:4	533:25 534:5	414:14 474:5	564:1
497:23 499:16	560:16 563:18	535:9,21 543:9	large 562:20	level 383:25
499:19,24	567:5 568:13	544:2,6,7,8,13	largely 427:1,2	433:22,24
500:11 502:6,9	KCP&L 422:7	558:3 559:13	larger 498:3	435:12,22,22
502:13 509:1,9	KCPL 453:11	559:15,17,19	largest 566:12	435:24 436:11
	463:16 562:3		Laurel 458:11	

436:13,18,24 437:4,5,7 438:5 439:13 440:2 441:1,1 461:11 500:22,25 501:1,6 517:14 517:17 518:1 518:18,20,22 519:2,11,19 520:14 521:1 549:9 566:9 lieu 550:24 lifted 411:4 Light 373:19 388:19 404:18 418:9 419:2 422:3 426:17 432:21 439:4 452:17 456:13 479:24 485:22 553:5 lighting 508:7,16 508:20 509:5 510:2,7,19 511:1,12,16 limited 471:3 line 379:25 380:7 380:23 381:3,8 381:12 386:13 386:13 387:5 392:19 393:2 419:12,21 426:23 442:20 442:21 444:14 445:25 452:21 453:4 454:7 461:7 476:20 480:7 484:13 484:14 488:14 492:6 493:16 500:19,19 501:4,12 508:14 536:8 536:12 540:18 547:3 550:7 553:15 554:15	554:16 555:14 555:16 556:1 559:6 lines 397:4 442:19,24 443:3 444:12 445:24 448:11 459:5 liquid 462:23 list 433:6 listed 537:11 Litigation 372:17 576:7 little 392:3 411:22 420:1 424:7 468:21 474:3 480:1 566:22 load 401:13,16 460:9,10 494:12,15,23 load-building 459:13,15,20 494:17 loads 566:11 local 456:1,2,4 481:4 553:22 locate 490:18 located 490:16 512:22 513:2,3 514:25 564:11 locating 495:14 location 472:22 490:21 512:13 531:23 locations 490:7 locked 397:8 long 382:20 405:3,5 424:8 439:15 470:7 470:11 471:7 481:16 505:18 515:1,6 516:4 522:12 524:4 535:17 536:15 537:2 548:20	562:24 563:4 570:4 long-distance 478:18 long-term 464:23 470:11,13 480:4 494:23 longer 437:12,18 440:25 480:21 look 401:7 403:23,24 408:25 410:15 411:3 421:8 447:17 462:7 466:6 469:17 478:6 479:1 486:13 520:16 560:9 561:17 565:7 567:8,14 looked 403:19 404:10 472:9 looking 385:19 401:5 411:10 465:21 467:1,4 469:19 476:10 486:16 493:7,9 543:20 557:25 559:21 looks 458:9 466:8 lose 508:1 lost 436:8 566:12 lot 428:13 437:3 454:15 462:21 463:4 467:16 498:9,10,11 560:20 563:16 lots 419:18 Lou 457:25 Louis 373:7,22 388:5 398:14 398:15 402:25 408:2 409:7 423:14,19,21 445:20 456:18 468:4 469:25	505:25 526:13 526:18 527:3,6 527:9 528:4,20 529:6 532:1 536:23 552:7 low 549:8 low-cost 492:13 lower 466:15 467:7 472:4 551:17 lowering 496:4,7 <hr/> M <hr/> M 373:16 574:10 M-a-r-k-e 500:4 M-a-r-t-i-n 442:6 M-u-r-r-a-y 431:8 Madison 373:17 374:5,11 magnet 565:7 MAIDA 372:14 main 507:12 maintain 391:4 510:14 major 481:22 majority 448:11 516:10 521:23 569:3 making 410:4 427:21 478:15 478:17 manner 379:3 manufacture 469:7 map 490:15 528:17 529:3,9 531:22,22 532:3,8,10,11 532:13,14,16 532:18 533:8 533:12,20 564:8 marginal 493:20 495:6 mark 373:11 509:10,16	Marke 499:22,25 500:2,4 502:4 502:17 507:18 509:24 512:3 515:24 518:19 520:11 522:3 531:19 535:23 536:21 538:15 539:13 540:11 545:23 547:14 551:10 552:24 562:11 570:13 573:2 574:15 574:17 marked 375:3 376:5,7 421:18 442:13 446:14 446:17 447:10 484:8 492:2 500:9 509:7,21 509:25 510:18 517:6 574:2 market 397:7 412:12 444:16 449:21,22,25 450:12 451:5 452:8,12 455:11 456:14 456:21,25 457:1 458:15 458:16 463:12 463:21 464:24 465:2,11,12 466:20 468:6 468:20,22 469:5,6 470:8,9 470:9,12,25 472:11 473:24 475:23 476:10 476:14 478:1,2 478:3,6,7,21,22 478:25 479:12 481:11 490:9 490:10 499:8 523:16 535:4,7 539:7 553:21
---	---	---	---	---

<p>554:21,21 555:1 561:3 565:17 566:9 569:24 market-based 559:2 markets 451:23 465:19 469:3,8 469:11,16 470:16 477:24 477:25 478:21 495:25 Martin 441:25 442:2,6,12 494:16 572:16 574:24 575:2 masks 475:16 mathematical 385:24 matter 372:7 377:16 378:17 405:8 416:15 416:22 422:2 427:22 431:16 476:9 495:15 matters 375:15 570:17 max 463:25 464:5 maximum 464:10 466:8 472:2 527:14 527:15 MC 373:7 mean 383:15 397:18 403:24 405:4 406:16 417:14,24 436:3,9 454:8 455:10 458:16 459:15 465:6 465:10 479:3 480:15 483:6 488:11 504:16 534:3 551:16 556:23 557:5</p>	<p>558:24 560:4 561:8 566:7 meaning 516:24 means 405:6 454:19 480:9 480:12 496:21 515:6 measured 417:18 544:14 MEEIA 402:14 460:8 meet 540:21 541:19 547:20 566:8,10 meeting 481:16 Melton 491:4 member 532:23 532:25 mental 449:8,15 mention 523:23 525:5,18 mentioned 489:5 498:3 511:9 513:23 525:16 message 559:24 met 541:9 meta 562:20 method 404:25 methodologies 433:19 435:11 436:16 438:11 methodology 568:1 metric 433:16 439:19 metrics 568:1 metropolitan 445:20 490:3 529:6 MICHAEL 372:12 Michelle 491:4 micro 474:3,9 microphone 375:21 middle 528:17</p>	<p>529:3 531:22 Midwest 372:17 576:6 mile 526:4 miles 513:19 514:15,21 521:14,18 524:21 525:14 525:21 526:2 527:3,6,9,15,17 529:22,23 530:19,20 531:4,5 million 487:18 567:1,7 millions 549:22 mind 476:2 mine 492:25 558:12 minus 487:11 minute 437:17 438:4,13 440:1 440:6 501:2 minutes 380:20 439:19 466:11 466:12 505:15 536:25 mischaracteriz... 394:2 mischaracteriz... 396:12 MISO 566:8 Missouri 372:1,5 372:8 373:6,10 374:10,13 376:15,17 379:16 380:3 381:18 382:22 383:14 392:20 400:4,10 401:18,19 402:13,17,20 402:21 403:3,5 404:18 406:18 412:6 413:6,22 414:24 415:6</p>	<p>415:20 416:17 416:18 422:21 424:24 425:2 426:16 427:3,3 427:8,9,25 428:1,2,10,12 432:16 434:2 434:13 438:24 442:10 444:3 445:18 451:14 451:24 456:14 457:19 460:7 461:12 472:15 476:1,23 477:20 478:15 478:22 479:11 484:3 485:15 486:22 487:2,9 488:15 502:14 503:18 504:10 504:13,21 505:4,19 506:11 507:4 507:22 508:4,9 508:9 510:13 511:6 515:9 517:25 518:24 519:2,10 526:5 526:10 534:9 535:18 536:17 538:6,11,18,23 540:21 541:14 541:25 542:20 543:22,24 544:4 546:15 548:12 549:6 550:21 551:14 552:18 559:19 561:22 568:16 574:19 576:2 576:16 Missouri's 379:22 389:1 392:15 415:2,6 428:10 452:25 478:7,14 479:9</p>	<p>506:15 508:19 509:4 514:22 526:19 541:2,7 541:24 544:17 547:4,18 548:16,21 549:20 551:5 569:14 misunderstood 461:21 Mitten 373:2 379:17 386:22 394:1 395:18 395:22 396:11 413:7,8 417:1 426:10 429:8 438:25 477:21 477:22 479:16 480:7 502:15 502:16,18 504:16 508:23 509:2,12,15,19 509:23 511:19 512:2 515:19 515:23 518:12 518:17 519:18 520:7,10 523:3 524:25 525:4,8 528:22 535:25 536:3,11 540:15,17 543:3,12 550:1 550:3 552:23 558:5,12 561:23 563:2 564:7 565:9,25 566:18 572:4,8 572:20 573:3 MJN-4 517:19 519:25 520:12 520:19 527:12 Mo 373:4,7,13,17 373:22 374:3,6 374:11 391:13 mobile 375:9 models 436:18</p>
---	--	--	---	--

Modernization 566:25	Murray 431:1,3 431:7,9,15	529:8 535:15	never 483:6 560:6	464:5 466:11
modified 414:1	433:1 441:9	535:19 536:13	new 419:2,3,3	484:13,13
moment 381:16	572:11 574:11	536:18 547:24	427:16 428:12	487:1 488:1,1
463:10,13	mutually 465:9	548:14 550:19	428:19 469:1	488:12 498:4
511:9 527:24		551:1,2	472:15 473:6	503:17 504:13
530:2,4	N	Nealon's 507:16	498:22 564:4,5	504:14,17,20
money 508:1	N 375:1 572:1	519:24 524:7	Newman 373:11	505:3 518:23
monopolies	N-a-t-e-l-l-e	528:8,12,23	night 460:16	525:21 540:19
553:22	378:10	near 415:20	Nissan 458:11	543:5 574:19
monopoly 472:12	name 378:9	457:1 484:14	517:9 527:14	numbers 381:24
Monroe 373:12	431:6,7 442:5	507:2 510:5	528:3 530:1,10	488:12 493:12
month 389:7	468:18 483:23	526:18 549:9	530:23	494:5,8 521:19
548:4	500:3	near-term	non-captive	522:10 560:18
monthly 548:7	names 486:15	507:12	423:9	563:18
months 506:1,4	narrow 398:7	nearest 480:18	non-lawyer	numerical
morning 375:4	Natelle 378:3,6	nearly 552:19	543:1	434:17
377:18 379:18	378:10 391:2	necessarily 420:4	non-Tesla 528:18	O
379:19 388:24	572:3 574:8	445:1 464:6	529:4,10	O 375:1
388:25 390:25	Nathan 374:9	465:3,5,8 476:8	non-utilities	o'clock 483:14
391:1 399:24	429:7	556:23 557:5	450:15	Oak 534:19
399:25 407:21	National 513:17	necessary 427:16	nonpartisan	535:16 536:15
407:22 433:1,3	514:4,7,12	508:10 549:12	491:14	565:18
435:7,8 458:25	515:15,25	need 377:19	nonpublic 445:3	object 399:4
464:20,21	516:20 520:25	391:25 392:7	Noranda 549:23	424:3 543:1
471:24,25	521:7 522:11	424:13,16	566:13 568:2	objection 441:16
486:7 502:17	522:23 523:6	460:5 475:3	normal 376:13	441:19 448:1
502:18	524:6 555:8	512:11,12	513:8	448:25 449:10
motivate 399:3	556:9 562:12	520:2 524:23	normally 382:3	489:11 497:13
Motor 458:1	562:20,23	566:10 570:17	NOS 485:10	497:14 518:7
move 377:4	563:12 565:18	needed 424:19	note 446:25	543:9
379:5 398:10	nationwide	516:23 563:14	494:24 498:13	objections 377:5
432:5 443:16	428:14	565:24	noted 487:17	379:7 432:7
467:18 476:24	natural 373:24	needing 481:8	notes 556:2	443:19 447:25
477:1 497:10	393:5,6,9,15	needs 566:8	576:13	448:3 485:6
511:19	407:25 408:5,8	negative 483:7	notice 509:4	502:6 511:21
moved 392:10	462:5,23,23	neighborhood	notified 377:16	objective 478:20
moving 422:18	nature 423:4	440:9	novelty 422:20	objectives 478:13
425:6 456:21	426:24 437:18	neither 530:22	423:1 424:1,13	544:19
463:19 476:11	524:10,18	net 429:12 495:7	NRDC 390:15,16	obsolete 534:8
535:3 566:17	525:6,11,17,22	546:15 547:24	425:25 434:23	obviously 498:23
multi-million-...	Nealon 478:12	548:22	435:13 437:16	occur 454:10
499:1	507:1,11 508:4	network 495:24	438:6 439:9,21	542:12
multiple 473:7	512:4,9 513:16	506:9 507:21	457:10 485:25	occurs 423:21
493:18	514:8,13	516:22 526:19	number 376:16	October 558:6,8
multiply 466:11	517:20 524:3	networking	423:25 459:9	off- 460:11
	527:13,25	470:2		off-peak 420:16

<p>460:3,16 461:4 496:3,16 551:18 offer 375:25 409:16 410:10 447:8 451:6 455:20 466:15 474:10 490:13 502:3 offered 376:10 402:14 403:7 427:24 486:7 497:13 502:21 offering 402:18 402:20 403:16 404:14 409:2 410:6 422:21 423:4 426:25 444:20,24 445:1,3,7 451:18 467:1 472:21 473:16 474:14,16 offers 400:10 office 374:2,4,7 375:18,23 380:5 388:9 500:7 506:14 576:15 official 509:3 oh 386:4 423:17 430:14 447:22 448:9 461:20 464:25 468:16 487:14 501:15 okay 377:24 387:16 388:18 389:8,23 390:12 391:18 398:21 408:18 410:17 411:18 421:1,17 422:5 423:1,12,24 424:17,22 425:6,23 426:21 427:5</p>	<p>427:14 429:5 432:4 433:11 433:17 434:1 434:11,17,20 438:21 447:22 470:6 481:25 484:14,19 485:3 486:18 487:15 495:20 517:7 519:8 528:13,16 554:11 558:9 Olive 373:21 onboard 436:22 once 466:11 One-Quarter 487:18 one-way 513:18 513:23 527:5,8 528:4 529:21 530:6,11,17,23 531:3,8,13 ones 403:5 OPC 376:7 377:9 482:11 492:2 497:17 498:2 499:20 502:11 558:18 562:9 568:2 OPC's 452:24 557:15,17 558:1 573:1 574:13 open 405:13 452:11 490:21 operate 478:4 504:10 566:8 operating 380:16 381:19 384:9 384:14 408:1 410:1 505:4 operation 387:9 Operations 383:2 opinion 388:3 408:20 454:13</p>	<p>455:14 456:22 481:12 568:9 opportunity 384:2,10 447:24 453:24 494:23 opposed 411:10 412:2 429:2 opposes 452:24 option 478:17 569:9 options 461:13 462:8,21 463:5 463:8 order 375:14 377:20 385:16 386:3 387:8 391:9 395:16 397:3 405:12 422:13,17 433:9 441:20 463:24 472:17 476:13 509:17 556:13 558:7 orders 392:16 organization 491:12 original 498:16 originally 426:22 492:22 out-of-town 375:11 outdoor 508:20 509:5 510:2,19 outlet 519:21 520:14 521:5 outlets 394:11 518:5 outlined 385:21 outside 424:4 475:19 483:4,6 489:11 overall 477:1 496:4,7 546:5 overrule 543:8 Overruled</p>	<p>449:12 483:2 489:13 overstaying 440:7,17 owned 403:12 414:4,24,24 415:2 416:4,8,9 416:17,18 510:2,20 554:4 owner 404:21 416:11 449:7 451:5 470:23 517:25 519:1 519:10 551:19 551:24 owner's 518:1 owners 450:5,9 515:16 550:22 551:4 owning 563:22 owns 415:7,7,8 448:22 511:1</p>	<p>445:15 448:9 452:20 457:17 457:24,24 458:1 459:1 461:6 484:13 484:14 488:14 491:2 492:5 493:6,12,16 494:5,7 500:19 501:4,11 503:15 504:24 505:13 508:3 508:13 510:5 510:11,22 511:4,10 512:8 512:8 516:6,19 517:5,12,19 519:24 520:12 520:18 523:12 524:2,23 528:14,17,21 528:23 529:3 531:18,22 534:2,6 536:4,9 540:10 543:18 546:25 547:3 547:13,16 550:5 551:10 553:14 554:1 554:10,12,13 554:14,15,22 555:7,11,13,16 555:22,22,24 556:1,8 564:8 567:9,9,10,12 pages 376:16 486:14 493:11 502:25 503:5 503:22 516:4 562:21,22 paid 376:18 panels 473:7,19 473:20 papers 434:14 paragraph 457:17 494:3</p>	
P					
			<p>P 375:1 P-a-r-k-e-r 483:24 P.C 373:2 p.m 496:21 571:1 P.O 373:3,12 374:5,10 pa-- 387:5 pacemaker 565:10 pacemakers 538:3 pack 477:9 package 518:13 packaged 409:2 packets 518:15 page 387:4 394:25 395:20 396:14,23 398:9 442:19 442:20,24 443:3 444:11 444:14 445:11</p>		

<p>paraphrasing 396:18,19 Parker 483:17 483:20,24 572:22 575:5,9 parking 387:19 part 380:24 399:15 407:1 414:20 415:1 416:5,14 456:5 466:24 476:3 518:13 526:7 534:10 535:19 partially 422:13 participant 517:15 participants 520:25 521:2 521:10 participate 456:24,25 particular 402:10 404:6,7 418:15 419:12 423:4 466:4 467:20 475:19 475:22 476:10 491:4 522:18 525:5,12,16 particularly 424:17 486:13 549:8 552:3 parties 376:1 441:17 444:20 444:23 472:3 475:10 489:23 567:23 570:17 partly 463:20,20 481:6 parts 428:18 party 385:3,8,14 409:14,25 474:25 477:15 passage 553:15 553:19,20 554:2,25</p>	<p>555:12 path 475:25 PAULA 373:6 pay 387:18 388:2 389:3 395:16 396:3 397:3 399:13 420:21 434:5 471:8 550:10,16 551:4,4 paying 454:22 568:21 payment 404:25 448:14 Payne 374:9 378:2,7 379:5 379:13 399:4 424:3 426:7,8 429:5 430:25 431:4 432:4,13 441:7 444:6 479:19 485:18 553:1 561:25 572:3,10,12 pays 417:10 454:24 peak 420:14 460:12 496:20 496:22 566:10 pending 548:17 penetration 428:16 people 376:18 448:16 449:15 455:20 469:5 469:24 471:5 478:16 483:4 490:6 499:2 539:21,25 560:11 565:9 569:17 per-hour 438:16 per-minute 388:2 405:9 438:20 percent 437:6</p>	<p>461:18,21 482:13,18 487:22 513:17 513:22 514:16 514:20 516:15 521:13,17 524:12 525:23 548:3,22 565:11 566:14 percentage 544:20,24 percentages 542:1 544:3,9 performed 434:2 434:8,11,13 period 383:11 386:6 496:20 periods 420:16 460:3,12,17 permit 490:7 person 448:21 505:22 506:7 506:13,16 507:13 552:6 personal 461:22 516:24 518:23 personally 470:14 490:6 505:21 506:2,5 576:8 perspective 385:18 406:24 412:4 438:2 440:22 469:13 474:23 489:18 563:7 565:19 567:3 PEV 495:1,5 516:23,24 517:2 556:5 563:8 PEVs 563:4 phone 490:18 539:18,22 564:15 phones 375:9</p>	<p>539:15 540:1 pie 543:22 544:3 544:8,11,20 545:4 567:8 pilot 381:19 382:20 386:6 397:6 409:9 415:10 469:19 478:8,14 479:9 505:18 507:4 508:5 514:22 515:10 526:8 534:10 535:19 538:7,19 541:2 542:11,18 543:14 547:18 547:25 548:15 548:22 550:9 551:13 552:18 566:19 pjohnson@am... 373:8 place 414:15 460:9,10 466:20 468:8 468:11 549:7 560:9 569:16 576:9,14 placed 402:22 places 409:25 515:13 plan 394:16 407:1 462:15 547:5 566:17 566:25 567:1 Planner 442:9 484:5 planning 393:22 394:3,11 541:19 plans 394:15,19 505:22 plant 406:11 414:22 415:4 416:16,19,20 play 473:1</p>	<p>played 560:16 plays 499:10 please 375:8,21 378:5,8 384:17 389:15 392:8 421:25 425:16 431:5 440:13 442:4 446:19 459:1 463:10 483:19,22 486:10 489:15 499:24 500:2 510:10,22 517:4 523:4 528:14 536:4 538:16 546:25 547:13 567:14 Plug 532:23,24 plug-in 482:14 487:18 517:3 518:5 plug-ins 518:16 plugged 519:21 plugless 565:16 565:16 plus 487:11 562:21 point 386:14 391:3 401:15 401:25 415:20 450:23 451:3 455:17 460:18 467:15 476:6 480:16,25 523:18 535:20 544:8,13 555:17 561:17 562:17 563:13 563:17 pointed 562:11 points 395:8,10 poised 490:8 policy 405:25 412:4 442:10 462:12 474:23 476:19 488:18</p>
--	--	---	---	---

<p>557:18 558:22 561:9 political 491:14 poorly 384:18 portion 397:15 505:12 516:2 portrayed 532:4 563:11 pose 381:15 423:12 posit 492:18 position 380:5,21 389:8,12,17,20 390:8 392:10 392:22,24 395:3,5 400:1,2 400:3,15 401:5 401:19 402:4,8 403:8 405:11 410:25 411:1 411:23,25 412:3,5,21 414:3 418:14 418:17,18 420:1 426:11 426:19,19,22 427:11,15 433:5 436:4 437:15,23,24 439:17,18,20 440:5,15,22 450:14,21,22 451:1,2,24 452:25 453:2 460:22 461:1 462:4 465:14 466:21 471:15 471:19 489:7 548:8 557:15 558:1,18 559:13 560:5 560:24 561:4 positions 383:7 383:12 428:25 positive 495:7 possibility</p>	<p>424:21 467:5 471:8 472:10 477:6 524:14 525:25 possible 424:22 450:11 465:25 473:23 536:24 552:9 possibly 489:22 post-hearing 561:18 potential 389:9 411:17 423:2 476:11 478:3 494:12 495:23 496:2 potentially 388:10 405:21 427:2 477:14 496:13 pounds 545:6 poverty 549:9 power 373:19 388:18 404:18 418:8 419:2 422:2 426:17 432:20 439:3 452:16 456:13 479:23 485:21 532:6,15 533:19,22 553:4 565:8,16 powered 541:9 568:19 precedent 402:5 402:9 precedents 418:23 precedes 383:7 preceding 555:22 precisely 455:7 precluded 398:3 predominant 556:18 prefer 536:24 537:1</p>	<p>preferable 433:12 509:10 preference 433:12,13 preferred 388:1 prefiled 379:21 380:1 preliminary 375:15 377:16 premarked 446:17 prepare 378:16 500:9 prepared 431:15 present 441:16 576:8 presented 439:25 444:15 Presiding 372:12 pressure 495:8 presumably 386:14 presumed 384:16 430:6 presumption 385:2 presumptively 384:23 pretty 394:4,5 425:12 440:24 476:4 488:13 490:8 517:18 522:18 prevent 440:7,17 previous 426:19 price 458:15 463:11,25 472:5,18,20 481:13,14 501:14 priced 458:7 481:20 500:21 500:23 501:2 prices 458:18 501:7 553:24 553:25 555:4</p>	<p>pricing 397:6 490:22 553:23 554:4 principle 462:11 475:1 principles 383:13 383:16,19 449:23 prior 400:3 418:17 private 414:25 415:3,3,14 420:21 505:22 506:7,13,16 507:13,18,24 513:18 541:3 privately 414:4 416:4 pro-- 403:7 428:10 probably 410:14 462:9 470:2 474:1 518:22 559:9,14 565:23 problem 377:21 560:22 proceed 375:7,13 522:19 proceeding 522:19 proceedings 372:3 454:16 543:5 576:8,11 process 440:11 449:8 471:18 475:9 processes 449:15 463:20 procession 458:2 produce 385:9 385:13,16 401:17 516:3 543:11 produced 543:22 producing 560:1 product 559:2</p>	<p>profile 547:5 profit 417:23 472:4 profitability 507:12,19 program 379:22 379:24 380:10 380:11,14 397:6 401:8,9 401:12 406:15 459:13,15,20 467:20 505:19 507:4 514:23 538:7,19 542:12,19 543:14 547:18 547:25 548:1 550:9 551:13 566:19 programs 402:14 471:10 549:7 549:13,17 progress 570:3 prohibition 409:20 411:4 prohibits 410:24 413:23 414:10 project 381:19 382:20 386:6 391:9 469:20 478:8 479:10 515:10 516:9 534:10 535:19 541:2 548:22 552:18 projections 472:17 projects 499:1 516:21 prolong 561:16 promote 462:13 469:16,21 551:12 559:2 559:12 560:25 promoting 559:1 560:23 561:1</p>
---	---	---	---	---

<p>pronounce 458:4 proposal 381:17 382:8 385:7 395:1 402:10 427:8,21 428:8 428:9,10 489:8 500:20,24 566:24 propose 401:6 proposed 386:6 391:18 392:16 392:18 445:17 448:13 461:23 462:10 478:8 478:14 506:10 514:22 526:19 541:2 542:11 542:19 547:18 547:25 551:14 558:1,19 559:6 proposes 507:8 507:22 515:10 526:10 534:9 535:18 536:17 538:6,11,18,23 552:18 proposing 398:11 461:25 501:4 505:19 507:4 543:14 proposition 524:11 propounded 429:8 proprietary 394:22 528:19 529:4,11 534:2 prospective 559:20 protect 380:8 provide 383:23 386:10 419:21 424:14 450:15 453:23,23 472:4 475:10 475:18 507:14</p>	<p>508:10 549:18 provided 434:15 438:6 490:20 503:21 504:18 505:8 522:14 563:8 567:22 provider 404:19 445:18 456:4 providers 420:21 420:22 456:1,3 464:1 467:6 provides 384:2 395:15 492:22 508:6 565:17 providing 389:10 389:18 390:1 396:2 412:18 417:20 424:13 429:15,16,21 473:8 475:17 495:7 515:6 provision 411:1 411:14 provisions 508:6 prudently 384:1 384:9 psychological 481:7 public 372:1 374:4,4,7,8,10 374:13 375:12 375:19,23 378:14 390:23 405:14,14 408:3,4,10 422:16 425:11 426:3 431:12 434:25 441:3 445:6 450:16 453:22 456:12 456:23 458:22 460:13,22 461:1 473:17 474:15,17,22 474:25 482:3 486:2 498:14</p>	<p>498:15 499:21 500:7 505:16 506:14 508:7 508:16 511:11 511:16 516:8 532:5,12,19 533:4,11,13,15 533:20 548:8 549:16,21 551:11 554:5 555:20 publication 524:10 publicly 445:19 448:12 505:23 506:17 528:18 529:4,10 published 567:21 pull 405:18 pulled 560:19 purchase 399:3 422:9 474:13 550:22 559:21 purchasing 474:8,17 purports 531:23 556:12 purpose 447:4 508:24 513:6 515:4,20 purposes 380:25 382:13 384:21 385:11 520:8 pursue 453:6 put 385:3 407:5 416:1 468:15 472:14 473:6 489:24 495:8 499:1,6 567:3 puts 411:16 419:2 putting 468:8,16</p>	<p>quarter 480:16 481:3 quasi-competit... 412:12 question 376:20 376:25 384:19 391:8,21,22 392:22 394:8 396:6 397:4,17 406:7 408:14 410:20 425:12 428:5 449:5 451:21 454:21 470:16 473:13 473:15 474:13 474:21 475:17 488:10 489:15 504:3,17 508:14 518:25 519:6,7,15 522:8 523:4 525:1 529:2 536:7,13 538:14 543:4,6 551:6 554:16 557:1 558:16 561:18 570:7 questioned 394:16 questioning 398:6 questions 379:2 386:23 388:20 390:13,17,20 399:19,21,23 402:3 407:19 407:20 410:21 411:8,21 413:7 413:14 414:18 417:2,6 421:15 425:6,24 426:2 426:4 430:18 432:1,1,17,19 434:21,24 435:1,4,6 438:22,24,25</p>	<p>439:2,7 441:2,4 441:7 443:9,12 444:4,6 458:21 464:17,19 471:23 474:12 479:17,19,21 480:5 482:2,4 483:8 484:21 484:25 485:16 485:18,20 486:1 497:20 497:21 498:1,2 499:15 501:20 502:20 552:24 553:1,3,6,8,10 557:8,10,12 561:22,23,25 562:2,4,6,8 564:7 565:25 569:19 572:6,6 572:7,7,13,19 572:19 573:4 quickly 437:11 521:3 536:24 quite 395:7 456:7 564:7 quote 387:9 404:4 516:7 522:13,14,21 553:15,20 563:1 quoted 501:7 521:22 554:2 554:25 quoting 387:6 495:18 516:20 554:14 555:8 555:23</p>
<hr/>				
R				
<hr/>				
<p>R 375:1 574:24 575:2 576:1 radius 531:24 raise 469:23 534:7 547:19 548:9 raised 392:22</p>				

<p>range 458:10 480:9,13 481:13,22 490:25 527:14 527:16,21 530:3 563:4 564:25 570:2 ranges 480:22 527:25 530:1 rank 556:22 ranked 556:13 557:4 Rapid 387:25 418:2 rate 372:9 381:8 381:18 384:3 384:11 385:8 387:23 395:16 396:3 397:2 399:13 400:13 400:23 401:23 405:9,9,10 408:6,9 410:25 411:6,9 428:22 429:19 433:7,7 434:16 438:8 449:25 450:5 450:10,17 453:1,3,5,11,19 453:24 454:1,3 454:8 455:10 456:4,8 460:14 460:15 461:23 461:24,25 462:1,2 464:6,8 464:10,12,13 466:17 467:6,7 467:7 472:2 496:17,18,19 496:20 497:4 499:7,9,11 501:5,6 510:23 548:17 549:21 551:17 568:14 569:12,16 ratemaking</p>	<p>380:24 381:5 382:13 384:21 385:11 401:3 ratepayers 380:8 392:20 401:12 401:19 423:10 427:4,8 428:6,7 434:4 438:12 467:20 494:25 496:4,8,8,11 rates 383:24 384:5,10 404:20 406:6 406:18 425:2 430:1,3,9,16 433:6 435:11 435:15 436:10 444:17 461:10 461:12 466:15 495:8 496:25 501:7 510:6 547:19,25 548:20 551:12 551:16,17,23 552:2,19 556:3 556:4 568:25 569:6 rationale 435:10 435:19 436:2,3 436:16 437:21 438:1 561:13 reach 437:6 read 396:20 397:9 421:25 536:7,18 555:5 561:11 reading 387:6,12 392:21 396:15 396:21,23 556:2 562:19 ready 377:24 499:19 535:3,7 535:10 539:7 real 458:17 realize 428:8 really 407:16</p>	<p>463:2 468:22 468:23 472:25 481:18 560:15 reason 404:15 419:25 428:20 455:17 456:6 507:12 514:3 537:19 reasonable 376:23 384:1,2 384:4,6,16,24 385:5 430:4,5,6 473:2 481:9 511:17 528:7 555:4 reasonably 384:9 reasoning 426:12 reasons 455:15 566:6 rebuttable 385:3 rebuttal 378:16 387:4 431:15 442:13,19 444:11 445:25 448:10 459:3 461:6 484:7 487:16 500:12 500:15,18 505:13 508:13 511:10 515:13 516:19 521:22 522:3,4,20 523:24 524:9 531:19 534:2,6 540:11,14 543:18 547:14 548:25 550:4,6 551:11 553:15 554:8,14 574:8 574:10,15,24 575:5 REC'D 574:2 recall 394:15 395:1 421:14 427:18 429:8 434:19 480:5</p>	<p>482:15 498:4 508:11 522:15 524:15 525:14 526:20 529:18 529:23 530:20 531:5 534:12 537:12,17,23 538:3,4 548:17 548:18 receipt 447:25 502:7 receive 454:2 received 377:8,9 379:10,11 385:20 397:11 432:10,11 443:22,24 448:4,6 485:9 485:11 497:16 497:17 502:10 502:12 503:8,9 511:23,25 receiving 397:1 448:17 recess 483:14 recharge 391:24 439:16 513:7 515:7 524:14 525:25 528:6 530:7,13,25 531:9,15 recharging 564:1 recognition 386:14 recollection 396:8 recommend 403:22 404:1 554:16 555:17 recommendati... 392:6 422:14 435:17 462:15 523:10,15,24 recommendati... 433:9 435:14 522:22 523:6</p>	<p>523:15 562:12 562:15,18 recommended 393:1 429:2 recommending 380:6 recommends 392:14 record 375:24 377:8 379:10 421:20 443:18 448:4 485:5 497:16 502:10 511:24 570:24 recorded 392:19 records 376:12 376:13 384:15 recoup 454:18 472:17 recover 383:25 384:8 429:18 498:17 555:3 recoverable 386:15 recovered 554:18 recovery 382:22 460:4 Recross 413:5 438:23 477:19 561:21 Recross-Exami... 413:8 417:5 418:11 421:5 439:11 477:22 480:2 572:8,8,9 572:9,13,20,20 Redirect 426:6,8 429:6 441:6 482:6,9 497:23 497:25 562:9 562:10 572:10 572:10,21,23 573:4 reduce 545:12 547:6 reducing 460:10</p>
---	--	---	---	---

<p>460:11 reduction 546:15 refer 445:12 534:15 553:13 554:10 reference 443:1 446:1 487:17 488:14 492:5 536:9 538:9 referenced 463:23 491:20 516:1 538:21 referencing 491:3 495:17 496:15 567:16 referred 423:20 521:25 566:18 referring 380:15 393:7 395:19 396:9 408:7 425:15 455:22 500:12 refers 555:19 refined 401:23 reflected 401:1 reflective 401:2 436:10 reform 566:24 refresh 396:8 regard 406:16 422:20 452:6 regarding 482:13 498:2 525:20 539:10 554:3 regards 411:5 504:25 558:19 region 472:13 registered 376:17 503:17 504:17,21 regular 383:19 regulate 393:11 410:5 455:19 465:24 regulated 383:23 393:1 400:8,10</p>	<p>408:20 409:15 410:9 412:7,11 412:16,19 413:12,17 414:6,12 425:10,20 454:2,4 455:22 463:18 475:5 489:10,20 544:5 560:24 regulating 465:3 475:9 regulation 387:11 388:6 417:12,17 418:5 425:8 450:17 455:2 461:10 464:3 465:9,12,16 466:1,22 467:12 474:1 476:7,12 508:8 559:5 regulations 410:9 455:18 regulatory 372:12 380:20 383:13,16,18 431:13 463:20 475:2,9 476:18 548:19 566:24 rejecting 561:13 related 392:17 397:23 401:8,8 490:4 508:19 537:25 relative 547:7 552:12 relatively 513:12 relevance 482:17 relevant 440:23 482:21 reliability 566:8 relied 447:3 rely 445:14 521:4 539:18,20</p>	<p>remain 512:23 546:13 548:20 remember 394:17 397:19 427:9 537:22 remote 472:22 removed 410:8 removing 414:13 render 534:8 rendered 538:7 538:19 renewable 541:24 542:2,5 542:15 543:5 544:18,21 546:2 renewables 543:11 545:12 repeat 384:17 389:15 523:4 525:9 538:16 557:1 558:16 rephrase 449:4 460:16 514:10 562:25 replace 545:16 replaced 524:13 525:24 546:4 reply 570:21 report 428:21 493:23,25 515:14 516:7 516:21 517:5,8 521:8,12,16,21 521:24 555:8 555:23 556:9 reported 372:16 524:10,19 reporter 378:9 431:6 442:5 483:23 492:3 500:3 576:6 reports 534:19 represent 477:12 520:11 545:21 represented</p>	<p>486:19 487:4 503:21 representing 375:18,23 388:16 390:16 represents 505:3 543:23 566:13 request 445:14 445:21 446:2 446:24,24 447:1 457:15 503:3,8,16 505:5,7 575:12 575:14 requests 445:12 446:21 447:3,9 require 448:14 450:23 549:17 required 385:9 385:12 434:4 541:25 542:20 542:23,24 543:10 544:19 548:2 requirement 380:24 381:4 381:13 382:4 382:17 400:13 400:25 403:2,4 548:16 requires 383:24 402:16 550:22 resale 409:20 410:24 413:24 research 491:15 518:12 555:9 556:9 resell 474:6 reselling 477:6 reside 563:23 resident 565:5,12 residential 389:3 389:13 390:4 435:18 532:5,9 532:17,20 533:7</p>	<p>resource 547:5 566:17 resources 373:24 542:2,16 respect 406:21 445:13 respond 449:3 response 376:20 377:6 379:8 387:7 397:9 402:3 413:14 414:18 432:8 441:21 443:20 446:4 457:14 482:24 485:7 502:8 503:7 508:14 511:22 543:2 558:7 responses 445:14 446:20 447:8 responsive 503:22 rest 470:21 restate 440:12 525:22 restriction 414:3 result 381:24 389:5 427:8 428:8 534:11 546:15 resulting 401:13 402:10 retail 467:7 490:12 548:2,6 556:3 559:8 return 380:16 384:3,6,11 399:13,14 453:25 returns 454:3 reveal 394:21 revenue 375:25 376:24 380:24 381:4,12 382:3 382:9,17 386:18 389:19</p>
---	---	--	--	---

<p>389:24 400:13 400:20,24 419:13 486:8 486:21 487:5 493:19 495:5 503:4 504:7 505:7 507:6 548:16 550:21 555:4 560:19 574:19 revenues 379:23 380:10,21 381:2,11,20 382:21 384:14 384:22 385:10 385:15,19 386:8 389:19 391:6,11 392:17 393:2 401:1,2,8 418:15 419:8 419:20 423:3 429:10,19 468:10 495:7 495:21 reversed 498:15 498:18 review 384:25 422:6,12 434:14 447:24 508:19 509:14 reviewed 434:1 511:15 524:18 525:11 537:10 reviewing 380:2 426:14 Revise 394:7 revised 466:10 466:11 Rewards 387:25 418:2 RFP 397:24 471:18 RFPs 395:9 Ridge 534:19 535:16 536:15</p>	<p>565:18 right 381:5 390:22 391:25 393:12 398:8 399:1 406:19 408:1 418:19 419:8,15 420:8 420:17,18 422:18 423:1 425:1 436:3 439:16 446:22 446:23 450:3 453:7 456:15 457:15,21 458:2,8,12,13 464:5 466:14 492:16 493:13 494:1,6,9 495:11 501:15 504:15 511:12 519:25 526:24 527:10 542:9 543:15 553:17 554:5 555:20 555:24 559:1,8 559:15 563:14 565:5,15 566:15 568:3 569:13,25 rights 407:5,9,12 420:20,24 ring 391:14 rises 467:15 risk 391:10 risking 553:23 Rivers 373:21 Rmitten@bry... 373:5 road 524:12 525:24 540:20 roadway 515:2 Robertson 373:20 390:17 390:19,22 426:2 434:24 439:10,11</p>	<p>441:2 457:11 458:20 482:2 486:1 553:10 553:12 555:15 557:8 562:8 569:18 572:13 572:18 573:3 role 456:20 473:1 556:4 room 374:2 421:11 453:15 roughly 436:19 566:13 568:15 round 521:14,18 529:22 530:6 530:12,19,23 531:4,8,14 route 445:17 515:7 528:6 530:8,14,25 531:10,15 RPR 372:17 576:22 rules 409:13 410:9 467:4 run 393:15 470:18,19 471:7 Rupp 372:14 407:20 410:17 410:23 411:19 411:21 413:4 425:7 471:22 471:23 477:17 572:6,7,19 rural 457:4 490:3 Rush 421:11 426:17 RUSSELL 373:2 Ruth 373:11</p> <hr/> <p style="text-align: center;">S</p> <hr/> <p>S 374:2 375:1 safe 389:11 464:22 467:18 518:4</p>	<p>safety 537:25 539:10 sale 413:23 473:16 474:14 474:16 sales 542:1 555:3 savings 553:24 saying 394:17 397:21 406:23 419:25 438:5 450:8 451:14 456:1 460:19 475:8,14 says 387:13 392:14 397:18 414:11 422:17 457:18 487:10 490:15 495:10 496:19 501:14 511:13 512:15 523:21,22 529:8 535:2 550:20 554:13 554:22 563:12 565:9 567:18 scale 562:20 scenario 382:12 451:8 472:6 473:23 477:12 scenarios 420:12 427:23 493:19 495:5 schedule 517:19 519:25 520:12 520:19 527:12 570:19 scope 424:4 482:25 489:12 498:24 SCOTT 372:14 se 468:22 search 569:13 season 423:22 424:19 seated 378:5 483:19 499:24</p>	<p>second 457:17 558:3 secondary 552:13 sector 473:24 507:19,24 541:3 556:5 secure 492:21 see 381:16 388:15 390:15 392:7 399:9 410:15 411:12 420:2,7 447:16 451:17,20 454:10 455:12 458:19 465:8 465:17 466:16 469:18 470:14 476:8,9 484:12 486:9 487:1 488:12 490:15 491:5,18 494:10,14 520:2 523:16 523:17 547:9 547:10 566:16 seeing 475:6 490:5 seeking 422:7 seen 422:23 428:15 453:8 455:22 468:14 486:6,12 489:25 490:6 494:11 563:15 563:21 sees 409:10 496:22 self 376:24 sell 395:13 396:24 397:10 398:1 408:2,4 408:10 479:12 selling 388:11 395:25 403:18 404:4,9,16,23</p>
---	---	--	---	---

405:10,22	451:18 452:2	375:17,18,22	Shorthand 576:6	436:1,20
409:25 412:9	454:23,24,25	375:22 376:6	show 421:17	437:19 444:12
412:13,13,14	456:21 464:2	376:11 377:12	531:23 556:12	450:19 452:22
413:20 416:11	467:2 475:11	377:13 390:24	showing 385:4	457:13,16
423:25 474:21	475:17,19	394:1,9 395:19	386:1,19 520:8	471:25 482:5
474:25	477:8,10	395:21,24	528:18 543:21	491:2 503:1,6
sends 565:8	498:14 501:7	396:7,12,17,19	545:5	507:9,17
Senior 373:6	508:7,10 510:7	396:22 399:7	shown 455:1	516:18
sense 436:4	510:12,14,24	399:11,17,20	504:24 519:24	sit 465:13
455:1 464:9	511:5 541:7,22	426:4 435:1	520:18,22,23	site 395:13,14
469:4 470:5	559:5 565:17	441:4 442:25	532:18 533:8	396:1,25 397:1
483:4 494:24	services 372:17	458:23,24	533:12,19	397:11 398:2,2
sent 446:21	386:10 410:7	459:1 464:15	534:1 544:3,9	448:22 500:20
sentence 484:15	413:17 414:5	482:4,20 486:3	shows 376:15	512:12
484:16 554:25	418:24 425:11	486:5 489:16	381:18 384:15	situation 402:9
556:1	445:3,7 451:5	491:23 492:4	520:13 529:3	410:16 420:8
separate 469:4	454:1 455:20	493:3,4 497:9	570:19	451:4 499:5
475:7 477:3	478:16 492:16	499:21 500:1	sic 376:12 570:5	situations 427:16
558:20,21	507:14 508:7	500:14 502:3	side 518:22	six 398:11,20
September 392:5	576:7	502:21 503:20	543:23 567:5	469:20 471:12
392:14 515:14	servicing 424:18	504:12 518:7	Sierra 373:23	471:16
serve 425:2	456:20	519:13 520:2,5	390:18,20	sixth 526:13
428:1 453:22	set 383:24 387:23	524:23 525:2	425:25 434:22	skill 508:10
456:19	397:7 463:24	540:13,16	435:13 437:16	skipped 461:11
serves 427:1,2	472:2 474:3	542:25 549:24	438:7 439:8,21	slightly 477:12
478:1	490:9 498:17	555:13 562:10	457:9 482:1	slower 457:6
service 372:1	508:10 548:20	570:10 572:5	485:24 553:9	537:15
374:10,13	576:9	572:18,23	553:16 562:7	small 469:19
378:14 380:22	setting 372:9	573:2,4	significant	518:23
381:3 383:24	450:5 467:5	shift 496:3	466:21	Smart 394:5
387:23 389:10	share 394:18	shifting 460:11	silenced 375:8	468:18 506:21
389:18 394:11	532:23,24	496:15	similar 418:23	Smart's 393:18
395:10 400:8	550:10	shopping 440:8	484:22 490:4	394:2 395:19
400:10 408:14	shared 420:21	short 467:22,23	501:3 506:10	solar 473:7,19,20
409:20 412:19	shareholders	467:24 470:7,7	507:1,11,21	sold 408:24
415:4 417:12	429:23 453:24	470:18,19	508:5	416:21,23
418:16 420:21	548:21	481:23 483:14	similarly 442:23	487:18 488:4
423:8 424:14	Sheehy's 546:21	513:13	simplicity 436:5	solid 428:7
425:3 427:17	547:11	short-run 478:20	437:25	somebody
429:15,17,21	sheer 560:13	short-term 471:5	simply 398:7	402:24,24
429:22 430:13	sheet 576:10	480:4 481:13	404:23 415:16	454:22 468:14
431:12 438:16	sheets 392:16	shortest 552:9	436:4 509:8	sorry 375:22
444:20,24	509:4,6,19	shortfall 381:24	518:5 519:20	394:12 410:20
445:16 448:17	510:25 511:14	382:3,9,15	520:21	431:10 435:24
448:24 450:4	574:3,5	386:3 389:9,17	single 529:10	442:25 456:2
450:15 451:6	Shemwell 374:4	389:25 390:3,9	sir 421:4 435:8	461:20 479:7

483:7 492:25 523:3 525:8 528:10,25 536:10 540:13 557:2 558:9 567:9 sort 404:13 463:2 469:2 472:11 472:25 475:4 558:25 sought 430:8,15 sounds 416:2 521:11,20 524:22 526:25 527:18 535:1 source 445:21 495:18,20 sources 542:6 543:21 Southwest 387:17,20,22 387:25 388:5,9 407:24 417:8,8 418:1,4 Southwest's 417:20 space 472:8 476:25 spark 445:8 speak 429:18 449:15 451:12 504:6 speaking 383:18 383:22 384:8 384:13,20 401:24 444:21 504:7 special 377:1 486:25 487:13 550:23 568:9 568:23 specific 383:17 385:24 433:23 469:17 471:12 476:18 481:14 504:3 505:11	521:19 522:10 specifically 380:3 381:7 384:7 391:24 392:12 395:5,12 396:9 397:20 426:17 426:21 444:12 444:22 447:6 493:8 495:17 496:19 508:21 509:5 510:11 526:22 531:21 534:14 538:1 543:20 567:18 specifics 394:16 405:20 specified 450:16 542:1 specter 534:7 speculate 399:8 speculation 399:5,10 428:17 449:1 518:8 519:14 speed 436:23 535:8,11 538:10,22 539:1 spell 378:8 431:5 442:5 483:23 500:3 spend 467:16 Spire's 462:6 spoken 506:2,5 spots 564:16 spread 460:3 Springfield 566:15 Springs 529:12 spurred 472:3 499:7 ss 576:3 St 373:7,22 388:5 398:14,15,15 402:25 408:2 409:7 423:14	423:19,21 445:20 456:18 458:11 468:4 469:25 480:24 480:25 505:25 526:13,18 527:3,6,9 528:4 528:20 529:6 532:1 536:23 552:7 staff 374:13 375:12 377:25 377:25 378:2 378:15 379:11 379:21 380:4,4 380:15 383:3 385:1,3,8,12,14 388:3,8 389:20 392:5,6,9,14 400:2,8 402:4,7 402:11 403:22 404:1 408:23 409:24 410:24 411:3 412:5,5 412:21 413:10 417:11 418:13 421:7 426:6,22 427:11,15 428:6 429:1,8 430:24,25 432:11 433:8 433:11,18 434:1,8,11,14 437:20 439:17 439:18 441:6 444:5 452:24 474:5 479:18 485:17 552:25 561:24 Staff's 379:6,20 380:1,21 381:16 382:8 385:7,18 387:7 389:8,12,17 390:8 400:1,14 401:5,19 403:8	405:11 408:19 411:23 412:18 414:3 422:14 423:2 426:11 426:12,19 431:16 432:5 433:5,13 437:24 438:2 438:10 440:22 572:2 574:7 stand 378:3 421:12 431:1 517:4 standard 384:4 430:5 500:22 500:25 517:14 541:25 544:18 546:2 standards 542:4 standpoint 547:17 stands 517:3 start 465:19 469:23 507:2 started 403:21 463:19 starters 498:8 starting 468:6 480:17 starts 494:3,10 state 372:1 374:2 376:17,22 378:8 402:24 410:1 412:6,19 431:5 442:4 445:2 456:23 462:15 463:1 472:5 475:25 476:15,23 483:22 486:22 487:9 488:18 500:2 508:15 511:10 516:21 540:18 547:16 548:25 551:11 556:2 576:2,16	state's 462:12 550:25 stated 439:25 507:5 537:20 548:12 statement 403:15 445:4,16,22,23 446:1,5 448:20 482:12 540:25 547:9,10,11 statements 409:4 445:15 states 487:23 492:7 507:1,11 508:4 510:6,13 510:24 511:5 512:9 513:21 517:12 521:16 521:21 524:3 527:13 535:15 536:14 547:4 547:24 stating 389:16 516:7 station 385:10 387:10 393:5 395:13,15,17 396:1,2,4,25 398:1 404:3,6 404:22 405:13 408:15 410:11 411:24 413:16 414:4,20 415:17,21 416:5,10 418:4 420:4 429:16 435:12 437:10 440:10,18 448:22 450:4,9 451:5 456:25 468:8 470:22 470:23 471:6 472:14,21 473:6 478:4 480:18 488:20 492:12 498:11
--	---	--	---	---

500:23 501:5,6 507:21 518:2 521:2 531:24 565:17 stations 372:10 387:19,22 388:4 391:19 392:18 393:22 394:6 398:12 403:10,12,12 404:8 405:17 407:3,6 408:1 409:6,11,14 410:7 411:5 412:6 413:11 414:2 415:10 421:10 422:8 422:15 448:13 453:1,12 456:17 459:8 462:5 464:23 465:4 467:19 467:21 468:5 468:11,24 469:6,20 470:2 470:10,20,21 471:2,8,12 473:9 474:8 477:11 479:13 481:19 489:24 490:12 492:23 498:9,17,21 499:2,7,13 500:21 507:7 517:21 526:12 532:4,5,6,12,15 533:11,15,19 533:22 534:3,3 553:22 554:4 557:17,23,23 557:24 560:2,6 560:11,13,17 560:20 561:5 561:15 563:19 564:11,18 566:20 567:2	statute 402:15 412:10,18,20 412:22 414:10 414:15 425:14 557:21 statutes 425:21 474:6 statutory 455:24 steam 430:12 Stenotype 576:11 576:13 step 430:21 483:11 499:17 559:3 570:13 stepped 507:13 stifle 466:1,5 467:12,25 468:1 stifled 455:12 stifling 466:16 469:11 480:4 stimulate 478:14 stimulating 479:10 Stipulation 549:25 568:6 Stoll 376:21 stop 477:4 512:10 stops 470:21 store 451:16,17 stores 513:9 straightforward 386:7 straining 489:23 stranded 534:12 538:7,20 Strategic 491:10 491:13 492:6 493:17 stream 560:25 street 373:21 374:2,5,11 509:5 510:1,19 strengthen 413:1 stress 570:4	strong 406:13 492:11 stronger 406:15 structure 472:11 476:18 551:17 structured 403:17 structures 455:24 struggle 547:19 studied 515:15 521:13,17 Studies 491:11 491:13 492:7 493:18 study 493:17 495:3,11,11,13 495:17 516:1,3 516:3 517:9,13 517:14 521:2,7 521:10 522:11 522:23 523:7 524:6,10,18,19 525:12 562:21 567:21 study's 525:22 stuff 407:24 style 421:25 422:1 subdivision 419:3,4,5 subject 384:25 387:10 388:6 388:10 417:12 417:17 418:5 450:17 452:12 455:17 462:10 475:4 476:7 Subjected 458:5 submitted 447:9 503:3 566:24 subset 402:15 405:22 subsidies 454:14 549:12 subsidization	454:9,15 subsidizes 550:9 subsidy 427:7,12 454:20,21 455:2,6 548:1,9 548:13 549:1 549:18,22 568:2,4 substance 540:19 substantially 443:10 484:22 501:21 substation 419:3 419:4 success 391:10 successful 409:10 479:10 sufficient 460:23 460:24 555:4 suggest 455:9 suggesting 428:20 448:16 suggests 548:14 Suite 373:12,17 373:21 374:5 summation 412:17 summer 497:4 supplied 510:12 510:15 511:5 suppliers 471:14 supplies 511:6 support 462:4,9 465:3,15 498:11 516:23 524:11 549:13 550:11,16,24 551:5 supported 463:6 549:17,21 562:23 568:2,4 supporting 523:16 supports 379:21 460:14 465:11 524:7	sure 375:8 383:15 385:23 389:16 394:3,5 395:7 397:22 398:2 408:7 414:13 417:25 425:15 451:9 462:25 468:13 469:14 478:25 480:25 495:16 499:10 520:3 538:17 558:5 surrebuttal 426:15 442:13 442:23 443:3 452:20 484:7 484:12 500:13 500:15 501:9 501:13 506:25 507:10 512:3 513:15 516:6 522:6,7 524:2 528:15,24,25 535:14 536:13 547:23 550:19 553:14 554:13 555:7 574:17 575:2,9 survey 513:17,21 514:5,8,8,13 suspect 539:21 sustain 519:16 Sustained 399:6 Swearengen 373:2 swim 560:25 sworn 378:4 431:2 442:1 483:18 499:23 system 414:21 415:2,6,20 416:5,14 420:15 433:22 436:7,11,12,14 438:18 455:6 459:10,17
--	---	---	---	--

473:13 475:25 476:6,22 492:21 496:5 496:11 534:21 systems 476:4	talks 409:19 tank 480:17,25 481:2,3 491:17 Target 451:15,18 456:9 targeting 460:7 526:6 tariff 372:9 379:23 392:16 408:6,9,11 409:19,21 410:23 413:23 414:1,9,14 425:2 433:6 462:1 466:4,10 466:11 474:5 508:6 509:4,19 510:24 511:6 511:14 558:1,4 558:6,19 559:6 561:14 569:14 574:3,5 tariffs 409:13 452:13 465:21 508:19 509:6 509:16 570:7 task 537:3 tax 488:15,24 taxes 376:18 380:16 550:16 550:24 teaching 458:4 technical 383:20 392:3 technologies 540:3 technology 534:8 534:25 535:3,6 535:9,15 536:14 537:6 537:12 538:8 538:20 539:7 539:11 540:6,7 563:16 565:4 570:3 telecom 455:23	463:16,17 467:8 472:1 476:14,14 490:1 telecommunic... 425:13,19 telephone 420:22 420:23 tell 470:5 491:11 528:21 532:8 532:11,14 564:17 ten 386:17 tenant 420:21 tender 379:13 432:13 443:25 485:12 502:4 tens 549:22 tenure 383:6 term 429:25 457:2 467:22 467:23,24 470:7,7,7,11 481:16,23 507:2 537:5 terminal 387:20 terms 391:6 406:3 460:11 471:5 473:1 475:21 498:20 512:6 565:1 terrible 440:14 territory 425:4 462:6 Tesla 403:12 405:16 407:8,8 409:5,24 410:7 534:2,4 563:25 Teslas 405:18 test 381:17 384:16 tested 535:15 536:14 testified 378:6 393:21 394:24 431:3 442:2	449:24 461:18 483:20 497:3 499:25 543:4 testifies 550:21 testify 375:13 391:16 394:10 459:7 488:6 testifying 459:23 561:12 testimonies 435:14 513:16 testimony 375:11 378:17,21,24 379:21 380:1,2 380:3 382:25 387:12 389:2 389:24 392:21 393:19,24 394:2,4 395:4 395:11,20 396:13 398:6 418:1 426:15 426:18 430:20 431:15,19,22 441:9 442:19 444:11 445:11 447:2,4 452:20 455:16 459:2 460:19 461:16 478:12 484:7 489:12 494:25 497:7 500:18 502:19 505:13 506:20,25 507:10,16 508:3,11,18 511:10,13 512:4,9 514:9 514:14 515:14 516:2,7,14,20 517:19 521:22 522:3,6,7,20 523:24 524:3,7 524:9,15 525:7 525:15,17,19 527:13,13	528:1,9,12,15 528:24 531:19 534:2,7,12,15 535:14 536:13 538:9,21 540:11,23 543:18 546:22 547:1,14,21,23 549:1 550:5,12 550:20 551:11 553:14,16 554:1,14 561:12 565:23 568:13,13 570:13 574:8 574:10,15,17 574:24 575:2,5 575:9 thank 375:18 377:14,23 386:23 387:1 388:13 390:12 391:18 393:4 398:10 399:2 399:17 407:19 410:18 411:18 413:4 417:1,4 421:2 422:5,18 425:23 426:4,7 427:5 430:19 431:14 432:4 432:22 434:20 435:1 438:22 439:5,7 441:4,7 441:8,10 444:8 448:7 452:15 457:8 458:3,20 458:23 459:4 464:16 471:21 477:18,21 479:16,22 481:25 482:4 483:9,10 485:23 486:3 491:21 493:3 493:14 494:19
--	---	--	---	---

497:21 499:14 499:16,18 502:15 505:12 536:21 540:16 546:18 552:24 553:1,8 558:14 561:20 570:11 570:12,14 Thanks 555:16 thereof 576:10 thing 385:1 401:4 459:24 565:5 things 460:6 495:16 546:5 564:25 565:20 think 385:18 386:11,16 394:4 396:12 401:24 403:14 405:3,7 406:22 406:23 408:22 409:17,20 410:2,13,14 411:16 414:9 416:13 417:16 423:6 440:19 440:21 445:15 453:18 454:5 454:14,17,19 455:16 456:16 456:19 457:3,5 458:18 462:8 463:24 465:15 465:17 466:25 467:2,23 468:2 469:2,14,17,21 470:3,13,16,19 471:3,7,11,18 472:23 473:13 473:15,19,20 473:25,25 474:11,12 475:1,2,4,14,20 476:3,6,13,24 477:15 478:5	478:23,24 479:14 480:13 481:17,17,18 481:24 482:17 487:15 490:8 491:16,25 493:1,14 497:9 498:7 509:9 511:17 517:6 522:9 527:1 530:16 543:3,6 546:22 558:25 559:9,24 560:4 560:5,21 561:5 562:12 563:10 563:14 566:21 569:8,8 thinking 468:13 471:6 third 409:14,25 444:20,23 474:24 475:10 477:15 523:18 third-party 489:8,9,18 thought 407:16 466:18 492:22 thousand 499:2 three 398:22 437:5 506:11 526:18 532:4 534:24 three-year 386:6 507:3 542:11 543:14 thrown 454:15 ticket 417:15,16 Tim 421:11 426:17 time 378:21 379:6 380:6 401:15 424:8 428:6 431:19 432:6 439:15 440:12,17,25 460:14,15	467:16 489:15 489:25,25 493:15 495:14 496:16,18,19 496:20,21,22 496:25 497:3 506:11 520:13 528:7 539:23 539:23 544:8 544:13 551:12 551:16,23 552:2,9,19 553:21 561:2 568:24 569:4,6 569:11,15 576:9,14 time-based 433:7 440:16,20 times 397:22 490:21 496:3 496:16 519:24 520:18 548:13 552:12 564:20 Tinsley 441:15 447:1 483:17 483:20,22,24 484:1,6 486:6 498:1 499:17 572:22 575:6 575:10 today 375:5,14 379:3 390:16 425:21 432:1 443:9 465:13 484:21 494:24 501:20 570:23 told 460:21 506:14 514:3 527:19 537:19 Tom 380:4 426:16 482:13 top 387:5 391:12 430:10 457:24 510:5 569:20 tossed 473:11 total 487:2,8	503:16 504:13 504:17 505:3 505:10 totality 568:5 touches 409:23 track 428:21 traffic 457:5 trained 489:21 transcript 372:3 394:25 395:20 396:14,16 397:12 535:22 536:5,9 576:13 transcripts 570:20 transit 377:18 transition 472:11 475:22 transmission 415:8,15 transportation 462:8 463:5 494:22 550:11 550:17,25 551:5 568:16 travel 513:17 514:5,8,13 522:25 523:8 523:19 563:3 563:23 traveling 528:2 570:4 treated 393:2 treatment 392:25 400:11 418:23 429:2,3 tried 495:15 Trigen 430:12,15 trinkets 424:1 trip 521:14,18,24 528:4 529:23 530:6,11,12,19 530:24 531:4,8 531:13,14 536:22 552:9 trips 478:18	513:12,18,23 514:16,20,22 515:6 516:15 564:1 troubling 566:22 true 378:24 402:1 414:23 419:10,17 424:25 431:22 501:25 541:1 576:12 Truman 374:2 trump 414:15 trumps 436:5 try 391:3 418:18 439:10 468:9 474:2 trying 398:7 413:9 467:17 559:2 turn 442:20 459:1 510:10 510:22 517:5 523:12 528:14 531:18 536:4 540:10 543:17 546:25 547:13 567:12 Turning 554:22 twice 535:16 536:15 537:2 568:21 two 376:16 383:7 383:11 398:14 398:19 433:19 435:10,21 436:10,10,16 437:5 438:11 445:12 446:8 447:20 469:3 469:11 478:21 486:13 498:18 512:4,6 530:13 540:2 type 376:14 385:1 401:3
--	---	--	--	--

<p>406:17 410:7 416:15 420:11 424:15 465:16 467:12 475:19 491:11 492:8 552:17 types 462:16 463:4 465:16 469:8 477:7 488:24 514:21 532:4 543:23 545:6 556:12 typical 496:21 typically 563:5</p> <hr/> <p style="text-align: center;">U</p> <hr/> <p>ubiquitous 516:22 563:13 UE 509:21 511:25 UE'S 574:1 Uh-huh 382:7 452:22 486:23 487:6,21,24 488:5,22 492:10,17 493:22 ultimately 475:16 559:9 unaware 418:22 511:11 underlined 555:12 understand 379:20 381:16 400:1 433:24 435:9,19 436:1 468:25 473:15 480:8 518:14 557:15,17 understanding 388:8 389:6 390:1,6 392:4 400:7 401:6 406:7,24 412:15 416:25 422:6,11</p>	<p>423:24 425:17 436:15 437:14 439:12 440:4 453:11 465:1 478:10 499:4 503:2 504:7 505:6 518:21 532:22 538:13 564:14,22 565:14 567:23 understands 437:20 understating 544:11 understood 418:16 419:24 436:20 439:24 undertaken 541:3 unfair 437:16 549:2 550:8 uniform 458:18 Union 372:8 373:9 574:3,5 unique 402:9,12 United 487:23 units 517:18 unknown 495:22 495:25 unlawful 418:17 unreasonable 389:14 390:10 unreasonably 386:2,20 unregulated 475:25 553:23 upcoming 410:25 411:6 urban 490:2 usage 420:14 use 375:20 401:15 403:5 405:14,23 408:3 420:3,15 437:9 440:24 448:14 460:11</p>	<p>460:14,15 472:17,22 478:14 479:10 493:11 496:16 496:18,19,22 496:23,25 497:4 515:5 526:6 534:4 539:17,22,25 540:1 541:21 544:21 545:11 546:14 550:15 551:12,16,23 552:2,19 560:12 561:2 564:15 568:22 568:25 569:6 569:12,15 users 433:22 449:22 470:12 479:4 uses 460:5 542:21 utilities 383:14 445:3,6 453:22 456:19,23 463:19 465:19 472:25 477:10 494:4,10 499:6 499:12 544:4,4 544:17 545:11 554:5 utility 380:22 381:3 383:1,23 383:25 384:2,5 384:8,15,22 386:2,19,20 393:1 419:21 425:11 429:14 429:16,18,20 430:8 454:5,22 455:1 456:8,12 467:1 474:13 474:18 475:20 477:14 491:6 492:8 494:21</p>	<p>495:21 498:15 498:16 554:21 555:20 574:21 utilizing 408:15</p> <hr/> <p style="text-align: center;">V</p> <hr/> <p>vague 394:17 valleys 420:15 value 563:6 Vanguard 491:8 574:22 variable 455:4 464:11 variety 437:8 462:13,18 488:24 497:1 562:15 566:6 various 427:23 462:24 475:6 477:24 vast 516:10 521:22 vehicle 372:10 379:22 381:20 386:8 387:10 391:19 392:18 401:15 409:11 409:14 410:10 411:24 412:6 416:1,11 417:19 421:9 422:8,15 433:20 436:18 440:2 448:13 451:23 456:24 463:3,8 472:7 472:21 473:9 474:7 475:8,12 475:15 476:25 477:11,13 478:9 480:15 480:19 482:14 488:19,25 491:7 498:4 499:6 503:17 505:18,24 507:6 508:5</p>	<p>512:10,22 513:18,24 514:17,22 515:16 516:16 516:24 517:25 518:15 519:2 519:10 522:15 524:13,20 525:13,24 526:11 527:25 529:5,11 530:5 531:24 534:4 534:20 535:17 536:16,22,25 537:25 538:8 541:1 550:22 551:4,19,19,24 552:7,20 554:17,23 555:2,2 557:24 563:19 566:20 567:2 568:19 568:20,23 569:9 574:21 vehicles 376:14 376:14,16,21 377:1 387:24 393:6,6,15 401:17 411:8 415:11 417:10 420:14 428:11 428:17 437:8 437:12,17 438:7 461:22 477:4,5 478:15 478:17,18 479:6,11 480:21 486:21 486:25 487:8 487:23 488:2,8 504:13,18 505:3 513:7 515:5,7 517:3 518:6 519:19 519:20 521:3 524:12 525:23</p>
---	--	--	---	--

526:1 533:5 540:6,7,20 541:8,21 545:7 545:11,16,17 545:19 546:3,4 546:14 547:6,8 550:9,10,15 551:13 563:25 vehicular 408:6 408:9 vendor 469:25 469:25 470:1 565:15 vendors 423:25 424:12,23 425:3 469:22 470:9 471:9 478:3 479:2,15 489:8,9,19 490:12 venture 559:18 ventures 507:25 venues 513:10 verbatim 396:16 396:20,23 version 494:7 versus 406:2 425:8 474:9 480:4 vertically 463:17 476:4 viability 391:9 view 399:10 438:11 viewed 400:3 438:13 viewing 470:4 viewpoint 473:5 476:21 views 508:4 visualize 451:4 vital 456:19 522:14 563:8 Volt 503:25 504:4,5 527:16 528:2 530:1,4	530:22 531:7 Volts 504:10,14 504:20,25 505:10 517:10 Volume 372:6 volumetric 435:15 VP 423:16,19 424:9 <hr/> <p style="text-align:center">W</p> <hr/> W 373:11 wait 468:16 Wal-Mart 477:8 walk 475:24 walking 477:8 wall 519:21 520:14 521:4 want 387:17,20 410:5 411:19 449:2 451:6,9 452:8 470:5,14 471:1 472:14 478:3 481:2 489:24 490:2 509:8 520:11 536:23 550:4 553:13 554:15 559:4,5,21 wanted 385:14 421:10 wanting 490:5,7 559:10 wants 407:5 473:6 474:9 478:24 552:6 Warrenton 398:23 wasn't 397:21 398:2,6 413:18 423:1 495:11 519:6 way 388:3 392:12 395:11 405:5 409:21 412:10 428:3 465:18 466:4	467:8 481:1,2 494:25 498:23 509:11,13 527:3 559:14 569:24 ways 497:1 564:10 we'll 375:13 483:14 484:15 we're 377:24 403:6 404:11 414:8 415:5 428:20 438:4 441:13 461:25 475:5 480:14 486:16 490:5 495:18 499:19 518:24 543:14 558:25 559:1,2 570:23 we've 391:3 453:8 455:22 472:9 489:25 563:15 web 493:11 website 567:24 569:15 week 533:9,16,23 welcome 472:7 went 424:9 489:2 Wentzville 470:1 472:16 529:12 529:17,21 530:7,11,18,24 531:3,8,14 560:2 563:23 564:2 west 374:2 560:2 western 526:18 whatnot 561:3 WHITNEY 374:9 wholeheartedly 499:13 wholesale 467:5 495:25	wide 437:8 462:13,18 widespread 445:17 463:1 Williams 374:9 429:6,7 430:18 572:10 willing 411:3 willingness 507:20 windmills 473:7 window 542:13 wireless 534:20 535:15 536:14 537:1 538:1,8 538:10,20,22 539:3,10,22,25 540:6 wirelessly 537:6 wished 422:9 witness 378:1,2,4 379:13 380:4 424:8 426:15 426:16,17 430:22,24 431:2 432:13 441:10,11 442:1 443:2,25 446:8,11 449:14 468:18 482:22 483:3 483:12,18 485:12 489:14 494:16 499:18 499:20,23 506:21 508:24 515:20 518:11 520:4,8 536:1 543:10 550:2 553:16 555:14 558:8,15 561:12 570:14 witness' 489:12 witnesses 375:11 375:12,16 377:17,20,25	441:14,20 word 394:12 396:13 402:18 423:2 442:21 442:22 454:14 494:7 worded 384:18 wording 440:14 words 475:12 557:25 558:2 work 381:17 383:18 434:14 479:2 513:9 516:11 521:23 worked 383:10 working 473:10 workplace 513:3 works 449:21 466:12 478:25 workshop 566:23 worthy 508:8 wouldn't 382:21 401:20 415:14 415:15,16 420:9 518:4 written 409:21 412:10 500:19 561:11 wrong 536:8 wrote 508:18 <hr/> <p style="text-align:center">X</p> <hr/> X 572:1 <hr/> <p style="text-align:center">Y</p> <hr/> Y 372:13 yeah 410:2 435:25 440:14 458:9 469:2 474:1 475:1,5 487:10,11,16 488:13,22 491:5,5 493:7 493:24 494:20 497:8 557:11 year 381:18 384:16 390:10
--	---	---	--	--

498:18 533:9 533:16,23 542:6 549:4 559:23 years 383:9 386:17 389:4 389:13,25 390:5,10 400:20 406:18 425:19 428:15 428:17 458:6 488:4 506:11 534:24 542:8 560:18 567:3	431:16 432:6 432:11 574:10 106 471:17 107 530:18 11 459:5 483:14 516:19 11.3 389:4,12 390:4,9 12 506:1 528:14 528:23 540:18 546:25 12:56 571:1 120 527:6 122 527:9 13 396:24 442:24 443:3,4 452:21 1310 373:7 14 443:4 445:25 448:11 484:14 508:3 149 527:3 15 442:24 443:3 443:4 445:24 461:7 540:10 15th 570:21 16 445:24,25 448:11 453:4 550:7 168 529:23 17 454:7 459:5 501:2 512:8 517:19 18 488:14 519:24 520:12,18 184 531:5 19 554:16 567:9 567:12 1901 373:7	500:25 501:1,6 501:11 502:25 503:5,15 517:14,17 518:1,18,20,22 519:2,11,19 520:14 521:1 553:14 559:16 2,000 517:21 2,069 487:8 20 428:17 500:25 534:20 536:25 543:18 559:7 567:9,10 200 374:5,11 446:24 500:11 500:15 502:10 502:11 574:14 575:12 2001 455:25 463:24 476:13 2007 383:2 2009 513:16 201 500:10,12,15 502:10,11 574:16 2015 383:2,3 2016 515:14 567:18,21 2017 372:4 375:5 202 500:10 2021 542:6 203 376:5,7 377:4,8,9 486:7 502:21 574:18 204 492:1,2 497:12,17 574:20 21 442:19,20 501:12 214 530:20 21st 566:25 22 442:19,21 536:12 553:15 2230 374:5 24 506:4 533:8	533:16,23 547:13 240-mile-plus 570:2 25 387:19 250 375:2 442:14 443:17,23 574:24 250,000 487:20 251 375:2 442:14 443:17,23 575:1 252 375:2 484:8 485:4,10 575:4 253 375:2 484:8 485:4,10 575:8 254 421:19 28 392:5 550:5 28th 392:14 570:22 29 554:10,15 2nd 570:20	466:7 575:13 31 372:4 312 373:3 314)231-4181 373:22 314)554-2237 373:8 31st 375:5 32 501:4 335 394:25 395:20 396:14 396:23 35,000 381:21 429:10,19 353 491:24 360 374:10 365 533:9,16,23 37 524:20 525:14 536:4 375 574:25 575:3 575:6,10 376 574:19 377 574:19 378 572:3 379 572:4 574:9 38 524:21 525:14 387 572:4 388 572:5 390 572:5 399 572:6
Z				
zero 382:18				
0				
1				
1 389:7 397:4 435:22 457:17 457:24 458:1 458:11 487:15 487:16 493:16 500:23 548:3,4 548:9 1,577 487:2,10 504:14 1.20 500:23 501:5 10 500:21 501:4 516:6 534:6 566:14 10.20 466:13 100 378:18 379:6 379:11 387:4 406:18 461:18 461:20,21 482:13,18 527:15 548:10 548:22 565:11 574:8 100,000 381:20 429:9,20 101 373:17	2 433:22 435:12 435:22,24 436:11,24 437:4,7 439:13 441:1 442:19 452:20 457:24 459:1 500:22	2001 455:25 463:24 476:13 2007 383:2 2009 513:16 201 500:10,12,15 502:10,11 574:16 2015 383:2,3 2016 515:14 567:18,21 2017 372:4 375:5 202 500:10 2021 542:6 203 376:5,7 377:4,8,9 486:7 502:21 574:18 204 492:1,2 497:12,17 574:20 21 442:19,20 501:12 214 530:20 21st 566:25 22 442:19,21 536:12 553:15 2230 374:5 24 506:4 533:8	3 387:4 433:24 435:24 436:13 437:5 441:1 442:9,24 443:3 461:6 462:15 488:14 500:19 501:4 502:25 503:5 510:22 554:1,13 3-22 523:12 3-3-5 523:15 3.1 517:5 3.3.1 562:13 30 513:19 514:15 514:21 554:12 554:14,22 301 373:12 374:2 303 446:13,17 447:10,21 448:5 575:12 304 446:13,18 447:11,20 448:5 457:12	4 4372:6 397:5 444:11,14 445:11,15 448:9 503:22 508:14 510:11 554:15 40 521:14 526:2 526:4 527:17 400 373:17 407 572:6 410 572:7 411 572:7 413 572:8 417 572:8 418 572:9

<p>421 572:9 426 572:10 429 572:10 43 567:1,7 431 572:12 432 572:12 574:11 435 572:13 439 572:13 442 572:16 443 574:25 575:3 444 572:17 446 575:12,14 448 575:12,14 452 572:17 456 373:3 457 572:18 458 572:18 46 487:22 464 572:19 471 572:19 477 572:20 480 572:20 482 572:21 483 572:22 485 575:6,10 486 572:23 492 574:22 497 572:23 574:22 4th 423:21</p> <hr/> <p style="text-align: center;">5</p> <p>5 458:10 466:9 503:22 504:24 551:10 555:11 555:13,14,16 556:1 5,000 562:21,22 50 428:15 500 377:2 486:25 487:7,12 516:4 573:2 502 573:3 574:15 574:17 509 574:4,6 511 574:4,6</p>	<p>530 488:1 537 373:12 553 573:3 557 573:4 562 573:4 573)634-2266 373:13 573)635-7166 373:4 573)636-6758 373:18 573)751-3234 374:12 573)751-4857 374:6 58 509:6,16 574:4 58.5 509:6,16 574:4 59 509:6,19 574:6 59.3 509:7,20 574:6 5th 514:2</p> <hr/> <p style="text-align: center;">6</p> <p>6 444:14 484:14 492:6 496:21 505:13 508:13 509:18,21 510:1 511:10 511:20,25 555:24 556:8 574:3 600 446:24 447:1 575:14 601 373:12 614 373:21 63101 373:22 63103 373:7 64 521:13 65,000 381:24 382:10 429:12 429:18,21 650 374:5 65101 373:17 65102 373:13</p>	<p>374:3,11 65102-0456 373:4 65102-2230 374:6 67 536:9 680 374:2</p> <hr/> <p style="text-align: center;">7</p> <p>7 387:5 491:2 492:5 509:20 509:21 510:18 511:20,25 533:9,16,23 555:22 556:1 574:5 7,800 517:9 70 472:15 521:18 531:25 705 373:21 75 550:23 75,000 549:4 7th 558:6,8</p> <hr/> <p style="text-align: center;">8</p> <p>8 387:5 493:16 496:21 524:2 531:18 534:2 536:8 547:3 555:7,16 564:8 80 437:6 513:22 521:17 838 372:17 84 529:22 87 524:12 525:23</p> <hr/> <p style="text-align: center;">9</p> <p>9 396:24 500:19 534:15,19 554:15 9,000 517:22 90 513:22 521:17 92 531:4 95 513:17 514:16 514:20 516:15 99.96 488:7 99.99 548:7</p>		
--	---	--	--	--