## In the Matter of:

# THE APPLICAION OF EVERGY METRO, INC. d/b/a EVERGY MISSOURI METRO, etc.

# ET-2021-0151, VOL. III

October 19, 2021



www.tigercr.com 573.999.2662

1	BEFORE THE PUBLIC SERVICE COMMISSION
2	STATE OF MISSOURI
3	
4	TRANSCRIPT OF PROCEEDINGS
5	EVIDENTIARY HEARING
6	October 19, 2021
7	HEARING VIA WEBEX
8	Volume 3
9	
10	In The Matter of the Application )
11	Of Evergy Metro, Inc. d/b/a Evergy ) Missouri Metro for Approval of a ) File No. ET-2021-0151
12	Transportation Electrification ) Program )
13	PAUL GRAHAM, Presiding REGULATORY LAW JUDGE.
14	REGULATORY LAW GUDGE.  Ryan Silvey,  CHAIRMAN,
15	Scott T. Rupp, Maida J. Coleman,
16	Jason R. Holsman, Glen Kolkmeyer,
17	COMMISSIONERS.
18	
19	
20	
21	
22	REPORTED BY: Lisa M. Banks, CCR
23	TIGER COURT REPORTING, LLC
24	
25	

1		APPEARANCES
2	JAMES	FISCHER, Attorney at Law 101 Madison Street, Suite 400
3		Jefferson City, Missouri 65101 Jfischerpc@aol.com
4	FOR:	Evergy Missouri West
5	ROGER	STEINER, Attorney at Law
6	rtochr	1200 Main Street, 16th Floor Kansas City, Missouri 64105-9679
7 8	FOR:	roger.steiner@evergy.com Evergy Missouri Metro Evergy Missouri West
9	SCOTT	DUNBAR, Attorney at Law 1580 Lincoln Street, Suite 1105
10		Denver, Colorado 80203 sdunbar@keyesfox.com
11	FOR:	ChargePoint, Inc.
12	TIM O	PITZ, Attorney at Law 409 Vandiver Drive, Building 5, Suite 205
13		Columbia, Missouri 65202 tim@renewmo.org
14	FOR:	Renew Missouri
15	JOSEPI	H HALSO, Attorney at Law 1536 Wynkoop Street, Suite 200
16		Denver, Colorado 80202 joe.halso@sierraclub.org
17	FOR:	Sierra Club Natural Resources Defense Council
18		
19	SARAH	RUBENSTEIN, Attorney at Law 319 N. 4th Street, Suite 800
20		St. Louis, Missouri63102 srubenstein@greatriverslaw.org
21	DAVID	WOODSMALL, Attorney at Law
22		308 East High Street, Suite 204 Jefferson City, Missouri 65101 david.woodsmall@woodsmalllaw.com
23	FOR:	Midwest Energy Consumers Group
24		
25		

1	NICOLE MERS, Legal Counsel
2	Governor Office Building 200 Madison Street, Suite 800 P.O. Box 360
3	Jefferson City, Missouri 65101
4	staffcounselservice@psc.mo.gov FOR: Staff Of Missouri Public Service Commission
5	TOURS OF THER Courses
6	JOHN CLIZER, Counsel  Governor Office Building
7	200 Madison Street, Suite 650  Jefferson City, Missouri 65102
8	FOR: Office Of Public Counsel
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

Τ	PROCEEDINGS
2	JUDGE GRAHAM: Today is October 19th, 2021. We
3	are set to the resume the hearing that we adjourned on October
4	13th in the case of in the Matter of the Application of Evergy
5	Metro, Inc. d/b/a Evergy Missouri Metro for Approval of a
6	Transportation Electrification Portfolio. That file, of course,
7	was consolidated with ET-2021-0269. This file the lead file
8	is ET-2021-0151. We already took entries of appearance in the
9	case. I just want to take roll and see who we do have with us
10	at this point in time. I'll just go down my list.
11	Do we have someone I believe we do have
12	someone from the Office of Public Counsel?
13	MR. CLIZER: Yes, Your Honor. John Clizer for
14	Office of Public Counsel. Thank you.
15	JUDGE GRAHAM: Yes, and thank you for stating
16	your name. Let's be reminded, all of us, not just the
17	witnesses, but the attorneys as well, to state your name when
18	you begin to speak.
19	Do we have somebody from ChargePoint today?
20	MR. DUNBAR: Yes. Good morning, Judge Graham.
21	Scott Dunbar is here on behalf of ChargePoint.
22	JUDGE GRAHAM: Thank you, Mr. Dunbar. Do we
23	have someone for Evergy Missouri Metro and Evergy Missouri West?
24	MR. FISCHER: Yes, Judge. This is Jim Fischer
25	and I think also on the line is Roger Steiner and our team in

```
1
    Kansas City.
                      JUDGE GRAHAM: Thank you very much.
 2
 3
                     MR. STEINER: Judge, this is Roger Steiner.
 4
    We're actually having -- some of our team is having trouble
 5
    signing on. Is there a password that we need? I am able to
 6
    sign on, but other people aren't.
 7
                     JUDGE GRAHAM: Let me go and see how I did it,
8
    which may or may not work for other people. I don't know why it
9
    wouldn't. I am on by telephone because that is the least
    problematic for me. The phone number that I use is
10
11
    1-650-479-3207 and then there's a PIN or whatever you want to
12
    call it. If you'll take this down it's longer. It's
13
     24618010821. Then you hit the hash mark. It asks again for you
     to enter a meeting number, if you will just hit the hash mark
14
15
    again, you will come on.
16
                     Now, my IT department has been listening to me
17
     talk and they have just sent me a message that -- I don't know
18
    if it's apropos, I am assuming it is. Let me -- if you bear
19
    with me, I will get over to it. It looks like I am told -- they
20
     just sent me a number 0151.
21
                     MR. STEINER: So that might be the Meeting
22
    Number, 0151?
23
                      JUDGE GRAHAM: Well, there's a meeting -- also
24
    told in a different context -- and I just told you -- is that
25
    Mr. Steiner talking?
```

1	MR. STEINER: It is.
2	JUDGE GRAHAM: Mr. Steiner, I told you I got on
3	through my telephone.
4	MR. STEINER: Yeah.
5	JUDGE GRAHAM: The Meeting Number let's start
6	again if we're going to use a different portal. The Meeting
7	Number is 24618010821. I'm going to read that again because I
8	fouled it up. 24618010821. Then after that, there is a
9	password, 0151.
10	MR. STEINER: All right. We will try that.
11	JUDGE GRAHAM: Okay. Well, let's proceed and if
12	we continue to have problems we will address them.
13	Now, we have not completed our roll with
14	attorneys. I know that Liberty was go ahead Mr. Steiner.
15	MR. STEINER: I'm sorry. I should have been
16	muted.
17	JUDGE GRAHAM: Okay. I don't know if anybody
18	here is here from Liberty. I know Diana Carter is their is
19	there anyone here from Liberty? Anyone here from Midwest Energy
20	Consumer Group?
21	MR. WOODSMALL: Good morning, Your Honor. David
22	Woodsmall for MECG.
23	JUDGE GRAHAM: Good morning, sir. All right.
24	Natural Resources Defense Council?
25	MS. RUBENSTEIN: Good morning, Your Honor.

1	Sarah Rubenstein from NRDC as well as Sierra Club.
2	JUDGE GRAHAM: Yes. I was thinking you might be
3	here for Sierra Club as well.
4	MS. RUBENSTEIN: Yes.
5	JUDGE GRAHAM: Renew Missouri?
6	MR. OPITZ: Good morning, Judge. Tim Opitz for
7	Renew Missouri.
8	JUDGE GRAHAM: Anyone here for Spire today?
9	Anyone here for Ameren today? Have I missed anyone?
10	MS. MERS: Judge, Nicole Mers is on for Staff.
11	JUDGE GRAHAM: I don't know why I have just
12	included Staff from this hearing. Let me
13	COMMISSIONER HOLSMAN: Judge, this is
14	Commissioner Holsman as well.
15	JUDGE GRAHAM: Good morning, Commissioner.
16	Welcome. Before we resume, and I believe that Staff is up with
17	its next witness Claire Eubanks, but before we proceed with
18	testimony, are there any preliminary matters that we should
19	address although we are in the midst of a hearing, but we've
20	been through a long week. Anything I need to address or that
21	the Commission needs to address before we start out with the
22	witnesses? Okay.
23	I will tell you now and I will repeat at the end
24	of the hearing and I may very well issue an order because of the
25	exhibits and the way that they did come in last week and because

```
I was receiving exhibits by email from several of you after we
1
 2
    stopped the hearing last week. That I will be asking you to get
    together and prepare a joint list of exhibits which you-all
 3
    agreed that were offered and accepted into evidence into the
 4
 5
              I will repeat that request at the end of this hearing,
 6
    but I'm giving you a heads up now about it so that you can be
 7
     thinking about it with the issues that we've had because of
 8
    WebEx and so forth, I want to make sure we do housekeeping a
9
     couple of things on there before we go away.
10
                      That was the only preliminary matter at this
11
    point that I had down to address here. Is Staff prepared to go
12
    forward at this time with their witnesses and, specifically, I
    believe with Claire Eubanks?
13
14
                      MS. MERS: Yes. We are, Your Honor.
15
                      JUDGE GRAHAM: Okay. Well, why don't you
16
     introduce Ms. Eubanks and after you do, I will have her state
17
    and spell her name then I will administer the oath.
18
                      MS. MERS: Your Honor, the Staff calls Claire
19
    Eubanks to the stand.
20
                      JUDGE GRAHAM: All right, Ms. Eubanks, can you
21
    hear me?
22
                      THE WITNESS: I can. Can you hear me?
23
                      JUDGE GRAHAM: I can. If you will spell your
24
    name, then we'll administer the oath.
2.5
                      THE WITNESS: Claire Eubanks, C-L-A-I-R-E,
```

1 E-U-B-A-N-K-S. 2 JUDGE GRAHAM: All right. Ms. Eubanks, if you 3 will raise your right hand, I will swear you in. (Witness sworn.) 4 JUDGE GRAHAM: Counsel, you may proceed with 5 6 your questioning. 7 CLAIRE EUBANKS, having first been duly sworn, testified as 8 follows: 9 DIRECT EXAMINATION BY MS. MERS: 10 Ms. Eubanks, where are you employed and in what 0. 11 capacity? 12 I am employed with the Missouri Public Service 13 Commission as the manager of the Engineering and Analysis 14 Department. 15 And are you the same Claire Eubanks that Ο. 16 prepared or caused to be prepared the portions of the Staff 17 rebuttal report marked as Exhibit 100 in public and confidential 18 forms? 19 Yes. Α. 20 0. Do you have anything you wish to correct in your 21 testimony? 22 I do. On Page 25, Line 9 there is a rule 23 reference that I would like to correct. It should read 24 20 CSR 4240-20.05(2)(C). 2.5 And is that the only change that you wish to Ο.

1	make?
2	A. Yes.
3	Q. And with that change in mind, if I asked you
4	those questions today would your answers be the same?
5	A. Yes.
6	Q. And with the change, is the information in that
7	document true and correct to the best of your knowledge and
8	belief?
9	A. It is.
10	MS. MERS: Your Honor, Staff is going to hold
11	off on offering the Staff rebuttal report until all contributing
12	staff members have taken the stand, but we will go ahead and
13	tender Ms. Eubanks for cross at this point.
14	JUDGE GRAHAM: All right. Counsel, be reminded
15	I believe that you did the same thing with your last witness
16	with Sarah Lange.
17	MS. MERS: Yes.
18	JUDGE GRAHAM: With respect to your exhibit, you
19	did not offer it.
20	MS. MERS: Yeah.
21	JUDGE GRAHAM: I'm just pointing that out for
22	housekeeping purposes.
23	MS. MERS: Okay. Thank you, Judge.
24	JUDGE GRAHAM: Okay. I believe the order of
25	witnesses pursuant a filed agreement reached by counsel in this

case indicates that the Office of the Public Counsel will take 1 2 their cross-examination of Ms. Eubanks first. Is OPC ready to proceed with cross? 3 4 MR. CLIZER: We are, Your Honor. Thank you. 5 JUDGE GRAHAM: Yeah. What you may proceed, Mr. Clizer. 6 7 MR. CLIZER: John Clizer on behalf of the OPC. 8 CROSS-EXAMINATION BY MR. CLIZER: 9 0. Good morning, Ms. Eubanks? 10 Α. Good morning. 11 Do you have a copy of Staff's rebuttal report in Ο. 12 front of you? I do. 13 Α. 14 Q. Can you turn to Page 29 for me? 15 Yes, I am there. Α. 16 Could you just first verify for me that you are 0. 17 the party responsible for the development of Table 7? 18 I am. Α. 19 And just for the record, is it correct to say 0. 20 that Table 7 represents potential cost estimates for the 21 additional 72 charging stations that Evergy has not identified; 22 is that correct? 23 Α. So they had not identified any locations of any 24 charging stations, save the streetlight project. But this table 2.5 presents the 72 stations they didn't identify any for.

1	Q. Okay. And it is the cost of building those
2	stations? I just want to make sure I understand what the table
3	is?
4	A. Yes, and also, you know, line extensions.
5	Q. So my question to you very simply is: Is it
6	accurate to say that this table, there's distribution costs
7	which may not be included in this table?
8	A. In Staff's estimate?
9	Q. Correct?
10	A. Yeah. So Staff used the information that Evergy
11	provided in their workpapers to develop this table to provide a
12	range for the Commission to see what those 72 stations could
13	possibly cost. So my understanding is there's some limited
14	facilities upgrades included in Evergy's estimates based on
15	their experience with the Clean Charge Network, but certainly
16	what they provided in workpapers was a range of costs. So to
17	the extent, you know there could be potential costs that are
18	not accounted for because the site locations are not known.
19	Does that help?
20	Q. That does help. Thank you very much. That was
21	my only question.
22	MR. CLIZER: Thank you, Your Honor.
23	JUDGE GRAHAM: Thank you. Let me get back to my
24	list here. I see that MECG is the next party up for
25	cross-examination

1	MR. WOODSMALL: No questions. Thank you, Your
2	Honor.
3	JUDGE GRAHAM: Thank you, Mr. Woodsmall. Does
4	Sierra Club or NRDC have questions for the witness?
5	MS. RUBENSTEIN: No questions, Your Honor.
6	Thank you.
7	JUDGE GRAHAM: Renew Missouri, any questions?
8	MR. OPITZ: No questions. Thank you, Judge.
9	JUDGE GRAHAM: Thank you. Does ChargePoint have
10	any questions?
11	MR. DUNBAR: No questions. Thank you.
12	JUDGE GRAHAM: Thank you. I show that the
13	others let's go to Evergy. Does Evergy have questions for
14	this witness?
15	MR. FISCHER: No, thank you, Judge. This is Jim
16	Fischer.
17	JUDGE GRAHAM: Right. Mr. Fischer, I believe
18	you said you have no questions?
19	MR. FISCHER: That's correct. Thank you.
20	JUDGE GRAHAM: Thank you. Are there questions
21	from any of the commissioners? Okay. I have just a few.
22	QUESTIONS BY JUDGE GRAHAM:
23	Q. Ms. Eubanks, we need some help clearing up some
24	things about some terms here. Are you familiar with the term
25	NEMA 14-50? Do you know that phrase? N-E-M-A. The numbers are

1	14-50?
2	A. Yes. I am familiar with that term.
3	Q. All right. Thank you. MS. Eubanks, can you
4	confirm that NEMA, N-E-M-A, stands for the National Electrical
5	Manufacturers Association?
6	A. That is my recollection. Yes.
7	Q. Okay. And are you able to tell us what a NEMA
8	14-50 is?
9	A. So I
10	Q. And what
11	A. Go ahead.
12	Q. Are you able to I'm sorry. I didn't mean to
13	step on you there. Are you able to tell us what it is?
14	A. Yes. So it is referring to the type of outlet
15	that to the best of my recollection, that Evergy is proposing
16	for one of their rebates. And I guess a good way to think of it
17	is similar to an outlet that you would install for a dryer in
18	your home.
19	Q. Is there a difference in the way that it is
20	configured physically and the prongs or something like that
21	like? So we can envision?
22	A. Sure. You are familiar with a regular plug
23	where you will charge your cell phone and that has two prongs.
24	So where you plug in your dryer there's usually, you know, three
25	prongs.

Okay. I'm familiar with that. Are you asking 1 Ο. the question now? I will answer them as long as I know the 2 answer. Were you going to differentiate a NEMA from what we 3 might think of as an ordinary, let's say dryer or air 4 conditioner plug? 5 So I think the distinction would be the -- not 6 Α. 7 just NEMA because is an organization. So it's the whole phrase 8 the NEMA. And I'm sorry, I think it's 50P; is that correct? 9 0. 14-50, the number. 10 Α. 50? NEMA 14-50. 11 Q. 12 14-50. I apologize. So it is the whole phrase Α. 13 would be what you want to clarify. 14 Ο. Yes, please. 15 So I do not know the NEMA rating off the top of Α. 16 my head for a regular outlet pluq. 17 Ο. Okay. Well, I think you helped here. Let me 18 say this and you tell me I'm wrong, if I've got this wrong. But 19 NEMA refers to your recollection to the National Electrical 20 Manufacturers Association on the one hand. And on the other 21 hand the term NEMA 14-50 actually refers to a design? 22 Α. Yes, a specific type of plug. 23 Q. Type of -- design or -- this is a rating. 24 this may be manufactured by a number of manufacturers. Is that 25 a fair statement? Have I got it right?

1	A. Yes, it would be an outlet manufactured by
2	multiple manufacturers.
3	Q. Okay. Thank you very much. I understand that
4	NEMA 14-50 outlets are used for electrical vehicle charging.
5	Can they be used for anything else, if you know?
6	A. It could be used for other you know, they're
7	very similar to your dryer plug that you would have in your
8	home.
9	Q. So other appliances could be hooked up to a NEMA
10	14-50 outlet; is that right?
11	A. That is my understanding, yes.
12	Q. Okay. Well, thank you for the clarification on
13	some terminology here.
14	A. Sure.
15	Q. Now turning a different direction. If the
16	Commission were to support a Residential Electrical Vehicle
17	Outlet Program, are you able to tell us why doesn't Staff
18	support ChargePoint's recommended modifications to the program
19	to require rebates be based on either the purchase of an
20	electrical vehicle charging unit or a NEMA outlet? Are you able
21	to address that question?
22	A. So Staff witness Sarah Lange is the witness who
23	supported Staff's report on the program designs. So that
24	question would be better answered by Ms. Lange.
25	Q. By Ms. Lange. All right. Any other witness

that we could direct that question to? She has testified. 1 2 Α. Yes. Possibly Robin Kliethermes also. 3 0. Thank you very much. Aside from anything 4 already mentioned, if that the Commission were to approve an Electrical Vehicle Pilot Program, what do you think would be 5 useful data or metrics for the Commission and stakeholders to 6 7 get from the pilot and what terms or requirements for the pilot 8 would help get that information? Could you address that 9 question? Yeah, briefly. So Staff has stipulated in other 10 Α. cases such as Ameren's electrical vehicle portfolio ET-2018-0132 11 12 and that had a number of things that Staff was -- and parties in that case were interested in learning from that program. So I 13 would suggest that as an example. 14 15 Are you referring us to the Staff's report on Ο. 16 this? 17 Α. No. I believe it was in the stipulation and 18 agreement. 19 The stipulation and agreement. I'm sorry. I'm 0. 20 having a moment here. What stipulation and agreement are you 21 referring to? 22 In Case Number ET-2018-0132. Α. 23 Q. All right. That's what you would refer me to -or refer the Commission to? 24 25

Α.

Yes.

Q. Okay. Now for the transportation network proposal, does Staff have any recommendations on conditions or requirements that should be added in order to ensure that Evergy works with rideshare providers? Are you able to address that question?

2.5

- A. So Evergy's proposal in this case was to dedicate some of the CCN, Clean Charge Network, stations for rideshare programs. They have not identified any rideshare programs or rideshare companies that they intend to work with for those charging stations and they haven't really made it clear as to, you know, are those charging stations only used by rideshare companies and, you know, what the program structure would be. So, I mean, it is difficult for Staff to make a recommendation to the Commission because there's really nothing there except that there would be four stations and they would be for rideshare companies.
- Q. All right. That's fair. Thank you. Now for the highway corridor program, are there location requirements or conditions that should be added to the pilot program in order to avoid redundancies with sites elected by Electrify America or DNR's VW settlement program. Are you able to address that question?
- A. So Evergy's proposal in this case has two pieces that refer to highway corridors. One piece is the actual highway program that would be utilized for third-party

1	installers, not owned by Evergy. And then, also they proposed
2	to use part of the Clean Charge Network cap towards highway
3	corridor stations. So, I think you were asking about the
4	program and not the clean network stations.
5	Q. Yeah. Right.
6	A. And Staff witnesses Sarah Lange and Robin
7	Kliethermes are more familiar with the program designs.
8	Q. Thank you very much.
9	JUDGE GRAHAM: All right. Thank you very much.
10	That is all the questions that I have. Let's go back now and
11	see whether on the basis of my questions whether there's any
12	further recross. Any recross here. Does OPC have any further
13	questions for this witness?
14	MR. CLIZER: Very briefly, Your Honor. Yes.
15	Again, Clizer for OPC.
16	JUDGE GRAHAM: Go ahead and proceed Mr. Clizer.
17	RECROSS EXAMINATION BY MR. CLIZER:
18	Q. That last question you were asked, Ms. Eubanks,
19	regarding the location or other parameters, you addressed it in
20	terms of the rebate program. Has Evergy identified any location
21	or parameters related to the CCN network expansion the CC
22	Network expansion?
23	A. Sure. They identified preliminary sites that
24	could possibly work for the highway corridor Clean Charge

Network locations. Several of those sites were potentially

25

```
outside of their service territory, but you know, there's not a
1
 2
     specific, you know, street crossing or piece of property
 3
     identified at this point in time. Does that answer your
 4
     question?
                      I believe it does. Thank you. And is there
 5
 6
     anything in place currently that would prevent redundancy from
 7
     federal funding related to the Clean Charge Network expansion?
 8
              Α.
                      I don't believe so. No.
 9
                      MR. CLIZER: Thank you. No further questions.
10
                                     Thank you, Mr. Clizer.
                      JUDGE GRAHAM:
11
     Sierra Club or NRDC have any follow-up recross?
12
                      MS. RUBENSTEIN: We do not. Thank you.
13
                      JUDGE GRAHAM: Does Renew Missouri have any
14
     recross?
15
                      MR. OPITZ: No, thank you.
16
                      JUDGE GRAHAM: Do you have any recross?
17
                      MR. OPITZ: No thank you, Judge.
18
                                     Thank you. I'm sorry I didn't
                      JUDGE GRAHAM:
19
     hear well. ChargePoint, any recross?
20
                      MR. DUNBAR: No questions. Thank you.
21
                      JUDGE GRAHAM: Does Evergy have any recross?
22
                      MR. FISCHER: This is Jim Fischer. No thank
23
     you, Judge.
24
                                     Okay. Staff is there any
                      JUDGE GRAHAM:
25
     redirect for this witness?
```

1	MS. MERS: No, Your Honor.
2	JUDGE GRAHAM: All right. Thank you very, very
3	much, Ms. Eubanks, for your testimony.
4	THE WITNESS: Thank you.
5	JUDGE GRAHAM: Is Staff ready to I show that
6	our next witness is Kimberly Bolin; is that correct?
7	MS. MERS: Yes, Your Honor.
8	JUDGE GRAHAM: Are you ready to proceed with
9	that witness?
10	MS. MERS: Staff is ready to proceed with
11	Ms. Bolin.
12	JUDGE GRAHAM: Why don't you introduce her and I
13	will have her spell her name and administer the oath.
14	MS. MERS: Your Honor, Staff would call Kimberly
15	Bolin to the stand.
16	JUDGE GRAHAM: Ms. Bolin, are you there?
17	THE WITNESS: Yes, I am. Can you hear me,
18	Judge?
19	JUDGE GRAHAM: Yes. Would you state your full
20	name and spell it for us and then I will administer the oath.
21	THE WITNESS: My name is Kimberly Bolin, Bolin
22	is spelled B-O-L-I-N.
23	JUDGE GRAHAM: Okay. Ms. Bolin, would you raise
24	your right hand and I will administer the oath.
25	(Witness sworn.)

1	JUDGE GRAHAM: Counsel, you may proceed.
2	Counsel?
3	MS. MERS: Sorry, Judge. I was having a little
4	difficulty there.
5	KIMBERLY BOLIN, having first been duly sworn testifies as
6	follows:
7	DIRECT EXAMINATION BY MS. MERS:
8	Q. Ms. Bolin, can you explain what capacity and
9	where you're employed at?
10	A. I'm employed with the Missouri Public Service
11	Commission and I am the manager of the Auditing Department.
12	Q. Are you the same Kimberly Bolin who prepared or
13	caused to be prepared portions of the Staff rebuttal report that
14	is marked as Exhibit 100 in confidential and public format?
15	A. Yes, I am.
16	Q. And do you have anything that you wish to
17	correct in that testimony?
18	A. No, I do not.
19	Q. And if I asked you those questions today, would
20	the answers be the same?
21	A. They would.
22	Q. Is the information in that testimony true and
23	correct to the best of your knowledge and belief?
24	A. Yes, it is.
25	MS. MERS: Your Honor, Staff would tender

1	Ms. Bolin for cross.
2	JUDGE GRAHAM: All right. Bear with me just a
3	minute. All right. I'm showing that the Office of Public
4	Counsel is listed as the first party to do cross-examination.
5	Is OPC ready to proceed?
6	MR. CLIZER: Yes, Your Honor.
7	JUDGE GRAHAM: Do you have questions?
8	MR. CLIZER: Yes, Your Honor.
9	JUDGE GRAHAM: You may proceed, Mr. Clizer.
10	MR. CLIZER: Mr. Clizer on behalf of the Office
11	of Public Counsel.
12	CROSS-EXAMINATION BY MR. CLIZER:
13	Q. Good morning, Ms. Bolin?
14	A. Good morning, Mr. Clizer.
15	Q. Am I correct in the understanding that your
16	contribution to the Staff report included the discussion of the
17	request for an accounting authority order also know as AAO?
18	A. Yes.
19	Q. Is my understanding correct that the Company is
20	requesting a five-year amortization to recover costs over the
21	course of this AAO as part of the application?
22	A. That is what Evergy is requesting, yes.
23	Q. And Staff is opposed to that five-year
24	amortization determination in this case. Correct?
25	A. That is correct. We believe it should be, you

1	know, decided later in an actual rate case.
2	Q. All right. I think I have just three simple
3	questions. First, do you agree with me that there's no direct
4	correlation between the length of a program and the amortization
5	period not necessarily correlation. Let me specify it that
6	way. Would you agree with me there's no necessary correlation
7	between a length of a program and the amortization period?
8	A. Yes, I would.
9	Q. Second, is the Commission failing to make a
10	determination as to the amortization period for the AAO in this
11	case going to prohibit, prevent, or otherwise hinder execution
12	of the program?
13	A. No, it will not.
14	Q. And finally, are you familiar with the Ameren
15	electrification Case ET-2018-0132?
16	A. I am familiar with it.
17	Q. In that case did Ameren also request a similar
18	accounting authority order?
19	A. I believe they did, yes.
20	Q. And did the Commission order an amortization
21	period in that electrification application case for that
22	accounting authority order?
23	A. No, they did not.
24	MR. CLIZER: Thank you. I have no further
25	questions, Your Honor.

1	
1	JUDGE GRAHAM: Thank you. Does MECG have any
2	questions for Ms. Bolin?
3	MR. WOODSMALL: No questions, Your Honor.
4	JUDGE GRAHAM: I believe you said no questions?
5	MR. WOODSMALL: Correct. I have no questions.
6	JUDGE GRAHAM: All right. Well, does Sierra
7	Club or NRDC have any questions?
8	MS. RUBENSTEIN: No questions, Your Honor.
9	JUDGE GRAHAM: Does Renew Missouri have
10	questions?
11	MR. OPITZ: No questions, Your Honor.
12	JUDGE GRAHAM: ChargePoint, any questions?
13	MR. DUNBAR: No questions. Thank you.
14	JUDGE GRAHAM: Does Evergy have any questions?
15	MR. FISCHER: This is Jim Fischer. We have no
16	questions, Your Honor.
17	JUDGE GRAHAM: Are there any questions from the
18	commissioners?
19	COMMISSIONER HOLSMAN: No questions, Your Honor.
20	JUDGE GRAHAM: Okay. Thank you. Since we did
21	have some cross, I'm going to ask if there's redirect at this
22	point. Is there redirect from Staff for this witness?
23	MS. MERS: No, Your Honor.
24	JUDGE GRAHAM: All right. Thank you very much,
25	Ms. Bolin.

1	THE WITNESS: Thank you.
2	JUDGE GRAHAM: All right. Next I have J.
3	Luebbert. Is J. Luebbert what is J. Luebbert's first name,
4	staff counsel?
5	MS. MERS: I'm sorry, Judge. Could you repeat
6	that? You broke up a little bit.
7	JUDGE GRAHAM: Witness Luebbert, what is the
8	first name. Help me with that.
9	MS. MERS: It is the letter J.
10	JUDGE GRAHAM: Okay. Is witness ready to
11	proceed?
12	MS. MERS: Yes, Your Honor.
13	JUDGE GRAHAM: Why don't you introduce the
14	witness and then we will go from there.
15	MS. MERS: Your Honor, Staff would call J.
16	Luebbert to the stand.
17	JUDGE GRAHAM: All right. Would you spell your
18	full name and I will administer the oath.
19	THE WITNESS: J, Luebbert, L-U-E-B-B-E-R-T.
20	JUDGE GRAHAM: Mr. Luebbert, if you will raise
21	your right hand, I will administer the oath.
22	(Witness sworn.)
23	JUDGE GRAHAM: Counsel, you may proceed.
24	J. LUEBBERT, having first been duly sworn, testifies as
25	follows:

1	DIRECT EXAMINATION BY MS. MERS:
2	Q. Mr. Luebbert, where are you employed and in what
3	capacity?
4	A. I am an associate engineer for the Missouri
5	Public Service Commission staff.
6	Q. Are you the same J. Luebbert who prepared or
7	caused to be prepared portions of the Staff rebuttal report that
8	has been marked as Exhibit 100 in confidential and public
9	format?
10	A. Yes, I am.
11	Q. Is there anything that you wish to correct in
12	your testimony?
13	A. No, there's not.
14	Q. And if I asked you those questions today, would
15	your answers be the same?
16	A. They would.
17	Q. Is the information in that document true and
18	correct to the best of your knowledge and belief?
19	A. Yes, it is.
20	MS. MERS: Your Honor, Staff would tender
21	Mr. Luebbert for cross.
22	JUDGE GRAHAM: What exhibit were you referring
23	to?
24	MS. MERS: Exhibit 100, the Staff rebuttal
25	report.

```
JUDGE GRAHAM: Okay. Thank you very much.
1
 2
     Thank you. I show the Office of Public Counsel, again, as the
     first party for cross-examination. Is OPC ready to go?
 3
                      MR. CLIZER: Yes, Your Honor. Yes we have
 4
 5
     questions.
 6
                      JUDGE GRAHAM: Okay. Mr. Clizer, you may
 7
     proceed.
8
                      MR. CLIZER: John Clizer, Office of Public
 9
     Counsel.
10
     CROSS-EXAMINATION BY MR. CLIZER:
11
                      Good morning, Mr. Luebbert.
              O.
12
              Α.
                      Good morning.
                      Sir, do you have a copy of the testimony of
13
              Ο.
     Evergy witness Timothy Nelson in front of you?
14
15
                      I can, if you will get be just a moment. What
              Α.
16
     page?
17
              O.
                      I haven't said a page yet, but I was going to
18
     ask questions about Page 4?
19
                      This is the surrebuttal?
              Α.
20
              O.
                      Yes?
21
              Α.
                      Okay.
22
                      Before I go any further, just to confirm, you
              0.
23
     are the Staff witness primarily responsible for the portions of
24
     Staff's report that concerned avoided costs. Correct?
25
              Α.
                      Yes.
```

1	Q. All right. There's some discussion here
2	effectively regarding the MEEIA program, which I'm going to tell
3	you right off the bat, I've done my best to try and avoid MEEIA.
4	So this is confusing to me. But just at a high level I want to
5	confirm some of the things that Mr. Nelson says?
6	A. Okay.
7	Q. On Page 4 of Mr. Nelson's testimony at Line 7 he
8	states that Staff does not actually propose any avoided capacity
9	cost values in this case. Is that a correct statement?
10	A. Yes, it is.
11	Q. Turning to Page 5, at Lines 14 through 22 I
12	don't want you to read the entire thing into the record. Can
13	you confirm that the statement made by Mr. Nelson on Lines 14 to
14	22 are correct as well?
15	A. Give me just a moment to read.
16	Q. Absolutely. Take your time.
17	A. And so what was your question?
18	Q. Effectively, do you agree with this statement?
19	A. No, I don't. There are several things that I
20	don't agree with within that section of his testimony. The
21	first of which is that our position is unsubstantiated and
22	unsupported. Let's see. The first quote I believe that
23	Mr. Nelson takes from my testimony I guess, it is the second
24	one that says, Each megawatt reduced by DSM implementation does
25	not necessarily result in realized cost avoidance but

substantial increases in load are much more likely to cause additional costs attributable to the incremental load. So I think what needs to be understood here is that there is an absolute difference between an avoided cost that might be -- that might occur through implementation of a demand-side program and cost to serve new load. Within the context of a review of a general rate case, the cost to serve a given rate class is scrutinized and reviewed pretty heavily.

In this case there's absolutely potential for incremental costs and the cost to serve the new rate classes needs to have a full class cost of service study performed in order to come up with reasonable allocations. Simply to apply an avoided cost value that was ordered in a previous MEEIA case really doesn't have much context with -- within the context of the potential for load building.

A megawatt reduced by an energy efficiency program is not the same as a megawatt of load added, especially when you consider the potential for specific locations on a system.

- Q. Thank you. I'm not going to try -- I don't mean to inappropriately paraphrase here, but is it therefore accurate to state that Evergy is conflating MEEIA analysis and electrification analysis inappropriately?
  - A. I would say so.
  - Q. And you would agree with me that there is a

1	potential for electrification program and energy efficiency
2	programs like MEEIA to have direct contradictory results?
3	A. Yeah, there is certainly a potential for it.
4	Q. Thank you.
5	MR. CLIZER: I have no further questions.
6	JUDGE GRAHAM: Thank you, Mr. Clizer. Does MECG
7	have any cross-examination?
8	MR. WOODSMALL: No questions, Your Honor.
9	JUDGE GRAHAM: Does Sierra Club or NRDC have
10	cross-examination?
11	MS. RUBENSTEIN: No questions, Your Honor.
12	Thank you.
13	JUDGE GRAHAM: Does Renew Missouri have cross?
14	MR. OPITZ: No thank you, Judge.
15	JUDGE GRAHAM: Does ChargePoint have cross?
16	MR. DUNBAR: No questions. Thank you.
17	JUDGE GRAHAM: Does Evergy have
18	cross-examination?
19	MR. FISCHER: This is Jim Fischer. We have no
20	questions for Mr. Luebbert.
21	JUDGE GRAHAM: All right. Are there questions
22	from the Commission? All right. Counsel, is there any redirect
23	for this witness in light of the questions that Mr. Clizer
24	asked?
25	MS. MERS: Very briefly.

1	JUDGE GRAHAM: Proceed.
2	MS. MERS: This is Nicole Mers with Staff.
3	REDIRECT EXAMINATION BY MS. MERS:
4	Q. Mr. Luebbert, counsel for OPC was asking you
5	some statements about Mr. Nelson's testimony. Do you recall?
6	A. I do.
7	Q. And do you recall the questions of the testimony
8	that referenced Staff's avoided costs as being unsubstantiated?
9	A. I do.
10	Q. How did Staff support its avoided cost analysis
11	in this case?
12	A. We didn't do an avoided cost analysis. Adding a
13	load to a system is not going to avoid capacity costs. It is
14	that simple.
15	Q. And for Staff's conclusions in the MEEIA Cycle 3
16	report, did we also provide an explanation there?
17	A. Yes. We certainly did. In Staff's analysis for
18	the MEEIA Cycle 3 application, my recommendation was based on
19	the fact that the modeling provided demonstrated that there
20	would not be avoided costs in that case until I believe the
21	date was 2032. I may be off by a year there. And really, it's
22	just not an apples to apples comparison when you're looking at
23	this case compared to that MEEIA application.
24	Q. Well, you predicted my last question. So I will
25	stop right there. Thank you.

```
JUDGE GRAHAM: All right. Thank you very much.
1
 2
    I believe our next witness is -- thank you very much,
 3
    Mr. Luebbert. I appreciate your testimony.
                      THE WITNESS: Thank you.
 5
                      JUDGE GRAHAM: I believe our next witness from
6
    Staff is Robin Kliethermes. Is Staff ready to proceed?
 7
                      MS. MERS: Yes, Your Honor.
 8
                      JUDGE GRAHAM: You may introduce her. I'll ask
9
    her to spell her name and administer the oath and you can
10
    proceed.
11
                      MS. MERS: Staff would call Ms. Robin
12
    Kliethermes to the stand.
13
                      JUDGE GRAHAM: All right. Ms. Kliethermes,
14
    would you state your full name and spell it, please?
15
                      THE WITNESS: Sure. Robin, R-O-B-I-N,
16
    Kliethermes, K-L-I-E-T-H-E-R-M-E-S.
17
                      JUDGE GRAHAM: All right. Thank you. If you
18
    will raise your right hand, I will administer the oath.
19
                      (Witness sworn.)
20
                      JUDGE GRAHAM: Counsel, you may proceed.
    ROBIN KLIETHERMES, having been first duly sworn testifies as
21
22
    follows:
23
    DIRECT EXAMINATION BY MS. MERS:
24
              Q.
                     Ms. Kliethermes, where are you employed and in
25
    what capacity?
```

1	A. I am employed at the Missouri Public Service
2	Commission as a manager of the Tariffs and Rate Design
3	Department.
4	Q. Are you the same Robin Kliethermes who prepared
5	or caused to be prepared portions of the Staff rebuttal report
6	marked as Exhibit 100 in confidential and public versions, as
7	well as the surrebuttal testimony of Robin Kliethermes, Exhibit
8	101 in its public format?
9	A. I am.
LO	Q. And do you have anything that you wish to
11	correct in your testimony?
L2	A. I do. On Page 3, on Line 7 it reads, Evergy
L3	Missouri East, it should be Evergy Missouri Metro. On Line 17
L4	of same Page Number 3, it reads, Evergy Missouri East, and it
L5	needs to read Evergy Missouri Metro. And then
L6	Q. And that is I'm sorry to interrupt,
L7	Ms. Kliethermes. Could you clarify, is that in the Staff
L8	rebuttal report or in your surrebuttal testimony?
L9	A. I'm sorry. That is the rebuttal report.
20	Q. Okay. Thank you. Go ahead.
21	A. And lastly, on Page 17 of the Staff rebuttal
22	report is going to be Line 17. Again, it reads, Evergy Missouri
23	East and it should read, Evergy Missouri Metro. And that is all
24	the corrections that I have.
25	Q. Thank you. With those corrections in mind, if I

1	asked you the same questions today, would your answers be the
2	same?
3	A. Yes.
4	Q. And is the information in that document with the
5	corrections, true and correct to the best of your knowledge and
6	belief?
7	A. Yes.
8	MS. MERS: Your Honor, at this time Staff would
9	offer Exhibits 100, the Staff rebuttal report in both
LO	confidential and public versions, as well as 101, the
11	surrebuttal testimony of Ms. Robin Kliethermes.
L2	(WHEREIN; Staff Exhibits 100P, 100C, and 101
13	were offered into evidence.)
L4	JUDGE GRAHAM: All right. Say the exhibit
L5	number again. I cut out there.
L6	MS. MERS: No problem. Exhibit 100 is the Staff
L7	rebuttal report and that is available in both a public and
L8	confidential version, and Exhibit 101 is only available in a
L9	public format and it is the surrebuttal testimony of Robin
20	Kliethermes.
21	JUDGE GRAHAM: All right. Any objection to
22	Exhibits 100 and 101? Are you asking me to at this point in
23	time make any orders with respect to the confidentiality
24	component of any of these exhibits? Are you just simply
2.5	offering them?

1	MS. MERS: Yes, I'm simply offering, but just
2	for the clarification. I know some people do confidential in a
3	separate exhibit numbers. So just for the clarity of the record
4	both formats will be 100.
5	JUDGE GRAHAM: As far as the record is
6	considered, you're talking about Exhibit 100. Am I correct?
7	MS. MERS: Yes, Your Honor.
8	JUDGE GRAHAM: Are there any objections to
9	Exhibit 100? Hearing none, the record will reflect that Exhibit
10	100 is admitted into evidence and into the record.
11	(WHEREIN; Staff Exhibit 100 was received into
12	evidence.)
13	JUDGE GRAHAM: Anything further?
14	MS. MERS: Staff would move for Exhibit 101
15	would also be entered into the record.
16	JUDGE GRAHAM: Okay. Any objections to Exhibit
17	101? Okay. The record will reflect Exhibit 101 has been
18	admitted into evidence.
19	(WHEREIN; Staff Exhibit 101 was received into
20	evidence.)
21	MS. MERS: At this point, Staff would
22	JUDGE GRAHAM: Go ahead.
23	MS. MERS: I apologize. Go ahead, Your Honor.
24	JUDGE GRAHAM: I'm asking did you tender the
25	witness?

1	MS. MERS: Yes. Staff would tender the witness
2	for cross.
3	JUDGE GRAHAM: All right. Does the Office of
4	Public Counsel have questions for this witness?
5	MR. CLIZER: We do, Your Honor.
6	JUDGE GRAHAM: You may proceed.
7	MR. CLIZER: John Clizer on behalf of the Office
8	of Public Counsel.
9	CROSS-EXAMINATION BY MR. CLIZER:
10	Q. Good morning, Ms. Kliethermes.
11	A. Good morning.
12	Q. Is it correct for me to understand that you were
13	primarily responsible for drafting a portion of Staff's report
14	related to Evergy's new proposed rates for this case?
15	A. Yes.
16	Q. All right. That's my first line of questioning,
17	related to those rates. Evergy is proposing rates for the
18	charging of electric vehicle transportation and for businesses
19	to charge their electric fleets, is that a fair assessment of
20	the two new rate proposals?
21	A. Yes.
22	Q. Is it correct to say that existing electric
23	vehicles in Evergy's service territory are already capable of
24	being charged off of Evergy's existing rates?
25	A. Yes. So, yes. So customers who currently or

- businesses who currently have charging facilities that they own
  are currently being billed under tariff -- currently tariffed
  rates for Evergy.
  - Q. So then it is correct to say these rates -- these proposed rates are not offering a new service?

2.5

- A. No, unless you are defining the TOU option of it as a new service, but otherwise customers who are -- who have electric vehicle charging, but business customers are already being served on tariffs. So these are not offering new electric service.
- Q. And are these rates being offered as part of a pilot program?
- A. They are not. So the rate tariff, the business EV charging service tariff and the electric transit service tariff are not part of the transportation electrification pilot program. They are separate tariffs. They do not -- one thing to clarify is that the transportation electrification pilot tariff has a recommended start after a certain date. And the business EV charging service tariff and the transit service tariff, those tariffs are not identified as pilots and they do not have a start after a certain period date within that tariff sheet.
- Q. Thank you, Ms. Kliethermes. I'm going to move on to rate design. Is it correct that you are a good witness to ask questions regarding the rate design?

1		Α.	That is correct.
2		Q.	Evergy is proposing to use the large general
3	service	sometimes	s referred to as LGS rate for electric vehicle

charging; is that correct?

2.5

- A. That is correct.
- Q. You would agree with me that it's not -- you would agree with me it's not necessarily appropriate for an LGS rate to be applied for all electrical vehicle charges. Correct?
- A. That is correct. And Staff, as we said in our report, that it's -- you know, there are different size chargers, that is not reasonable to use one estimate and frankly there is no data to say that that is a reasonable estimate because there is no data to say what customers may or may not be taking service on this tariff. And so it is very concerning that that would be used to develop these rates.
- Q. This might be a fairly obvious point, but just to make sure that it is clear: You would agree with me that if an estimate was used that wasn't representative of the actual class taking service, you would have significant impact to the revenue that could be generated from that rate?
- A. Yes. Because there are so many unknowns and not enough information provided in Evergy's application as it is filed, there could be significant revenue impacts. There could also be, as I stated earlier, customers -- business customers with EV charging are currently served on a tariffed rate within

- Evergy currently, they could switch over to this rate and now create revenue problems or revenue differences from the revenues and billing determinants that were established in Evergy's last rate case.
  - Q. Thank you, Ms. Kliethermes. I am going to move on to the commercial rebate program. The commercial rebate program as proposed by Evergy includes incentives for rebates for multiple different tracks. Would you agree with me on that? And by tracks, I am referring to highway versus around town versus multi-family etc.
    - A. Yes. That is correct.

- Q. And the program as currently proposed does not actually require the amount of money set forth for each of those tracks to be used for that tract. Correct?
- A. So there are not -- that is correct. There is not a tariff provision that limits the amount of the budget to be used in a commercial program to be used for those specific areas. So currently as the tariff is filed, those budgets could be moved around.
- Q. And your opinion, would you conclude that that would be a bad thing?
- A. It would be -- it would be a concern because I think it was mentioned earlier -- so one of the categories under the commercial rebate program is the highway corridor and the highway corridor emphasis is also in the Clean Charge Network

rollout. And so if, depending on where the funding is spent, one area could get way more focus than another area and where the cost-effectiveness comes from could change. Now, one of the problems is that because Evergy's application did not include -- based on this program how many cars they're intending to -- I guess, incent or create new electric vehicle charging, it's difficult to see how the change in budget would impact any sort of cost-effectiveness, but seemingly it would and it could put a lot more money in a category that was unintended or, you know, unintended in this case.

- Q. Thank you. I have just a few more questions left. The first -- and this relates, I think, to the comments that a Commissioner might have said during the last portion of our hearing. Staff is not opposed to time of use rates for Evergy. Right?
- A. Staff is not opposed of mandatory TOU rates, specifically with a shorter differential and Staff -- you know, similar to what Staff proposed in Empire -- not Empire -- Evergy's last rate case and what Staff proposed in Ameren Missouri's last rate case.
- Q. And then finally, there's been some discussion about the total cost of this program and I think terms thrown out similar to \$1 to \$2 per customer a year. Is it correct to say that the total cost of the electrification program in Evergy's service territory would need to include, for example,

```
the sum cost of the Clean Charge Network investment that has
 1
 2
     already been made. Right?
                      You could. And to really look at what the cost
 3
              Α.
     of the incentives or the cost to put forward for EV charging,
 4
 5
     you should include what has already been invested for the Clean
     Charge Network. And currently, there is an approximate
 6
 7
     investment of about 14.1 million for both of Evergy companies
 8
     combined and that does not include the O&M, the ongoing O&M
 9
     expense. So that's about 14.1 and this application is
10
     approximately 15.5. So you're looking at almost -- I think it's
11
     about 29 -- $29 million totally invested in electric vehicle
12
     charging between the Evergy company.
13
                      MR. CLIZER: Thank you. I have no further
14
     questions.
15
                      JUDGE GRAHAM: Thank you very much. Does MECG
16
    have any questions for Ms. Kliethermes?
17
                      MR. WOODSMALL: No questions, Your Honor. Thank
18
    you.
                      JUDGE GRAHAM: Does Sierra Club or NRDC have
19
20
     questions for Ms. Kliethermes?
21
                      MS. RUBENSTEIN: No questions. Thank you, Your
22
    Honor.
23
                      JUDGE GRAHAM: Does Renew Missouri have any
     questions for Ms. Kliethermes?
24
2.5
                      MR. OPITZ: No thank you, Judge.
```

```
1
                      JUDGE GRAHAM: Does ChargePoint have any
 2
    questions for Ms. Kliethermes?
 3
                      MR. DUNBAR: We do, Your Honor. Thank you.
 4
                      JUDGE GRAHAM: You may proceed.
                                                       Identify
    yourself, please.
 5
 6
                      MR. DUNBAR: Certainly. This is Scott Dunbar,
 7
    counsel for ChargePoint. Thank you.
 8
    CROSS-EXAMINATION BY MR. DUNBAR:
 9
                     Good morning, Ms. Kliethermes. Did I pronounce
              0.
10
    your name correctly?
11
                      Yes, that is correct.
              Α.
12
                      Great. Good morning. It's great to meet you.
              0.
13
    My name is Scott Dunbar and I'm counsel for ChargePoint.
14
    you please pull up your -- was someone trying to say something?
15
                      JUDGE GRAHAM: No. I think you're fine.
16
                      MR. DUNBAR: Okay. Maybe it was an echo.
17
    BY MR. DUNBAR:
18
                      Would you please look at your surrebuttal
              0.
19
     testimony and turn to page -- Page 1, please?
20
              Α.
                      I'm there.
21
                      So there toward the bottom on Line 21 -- I will
              Ο.
22
     just read that sentence. You say: Although Mr. Wilson -- and
23
    you are referring to ChargePoint's witness Mr. Justin Wilson --
24
    Mr. Wilson recommends Evergy allow a residential customer to
25
    choose to use part of the proposed rebate toward the actual
```

purchase and installation of an L2 charger, that's Level 2 1 2 charger. He does not recommend this as a requirement to 3 participate in the program. Do you see that part of your 4 testimony? 5 Α. Yes. 6 Ο. Do you have ChargePoint's surrebuttal testimony 7 I believe it is Exhibit 901. handy? 8 Α. So I can pull it up. I do not have it in front 9 of me, no. Okay. Yeah. If you could do that, please. 10 0. And 11 I misspoke. I am actually looking for Mr. Wilson's rebuttal 12 testimony, which is Exhibit 900, please. 13 Α. Okay. And which page? 14 0. If you would please turn to Page 8. I am 15 pulling it up myself because I also had his surrebuttal open instead of his rebuttal. 16 17 Α. Okay. I'm there. 18 Great. Thank you. So on Page 8, Line 15 0. Okay. 19 Mr. Wilson states: Accordingly, I recommend that the Commission 20 direct Evergy to modify the residential rebate program to 21 require customers to install a qualifying Level 2 charging 22 station not a NEMA outlet -- that's in N-E-M-A outlet -- which 23 will allow customers to hardwire their chargers if they so 24 choose. Do you see that quote there, Ms. Kliethermes? 25 Α. I do see that.

Q. So I think it is fair to say that Mr. Wilson may have stated it a little bit differently, but would you agree ChargePoint does, in fact, recommend customers be required to purchase and install a Level 2 charger to qualify for the residential program?

- A. If it is -- I think earlier in Mr. Wilson's testimony he mentioned that being an option. If ChargePoint's recommendation is that that is a requirement, then that would change my testimony.
- Q. Okay. And maybe we can just clear it up on briefing and I will add an apology for any confusion, but is it fair to say that if it is ChargePoint's recommendation that the Commission direct Evergy to modify its program to require customers to install Level 2 chargers, that Staff would be in agreement with at least of that part of our recommendation?
- A. So just to clarify: Staff still has concerns with the residential EV charging. The part about clarifying what is being -- what ChargePoint is requiring versus not requiring would change that part of my testimony. But Staff would still have concerns that, you know, that there is not a requirement for TOU rates such as things such as what we've already mentioned in testimony. But would clarify a piece of it.
- Q. Okay. Yeah. Thank you. And I certainly didn't mean to mischaracterize your testimony. I understand that

1	Staff's primary recommendation is to reject the residential
2	program. But is it fair to say that if the Commission does not
3	reject the residential program, then one of the modifications
4	that Staff recommends is that the Commission require customers
5	to install Level 2 chargers?
6	A. And other things.
7	Q. Right.
8	A. I can't say that would solve Staff's
9	recommendation, but
10	Q. But that is one of the modifications that you
11	recommend if the Commission approves the program. Correct?
12	A. That is a recommendation that I do not and,
13	of course, Staff is much larger than just myself, but that is a
14	recommendation that I would recommend not be opposed, but I am
15	not saying that would be a recommendation that would make the
16	program make the whole program be able to be recommended by
17	Staff.
18	Q. Okay. But you'd agreed it would be an
19	improvement, that requiring customers to install chargers
20	instead of just installing NEMA outlets, NEMA outlets, that
21	would be an improvement on the program. Is it fair to say?
22	A. It could be depending on what the tariff
23	language and how the tariff language and provisions and that's
24	part of Staff's concern is that some of the requirements are not
25	specifically in the tariff. It really depends on how that

1	requirement would come into the whole program and tariff design.
2	Q. Understood. Understood. I still don't feel
3	like you have answered the question and, you know, I certainly
4	appreciate that there's nuance and contingencies here, but is it
5	fair to say that if it came in through the tariffs in the right
6	way, that it would be an improvement over the way Evergy has
7	designed the program to only require outlets?
8	A. It would be an improvement.
9	Q. Okay. Thank you. So let's talk now about what
10	one of your one of Staff's other recommendations that I think
11	is fair to say you are also making to improve the residential
12	program. So you can look at this if you need to on Page 3 of
13	your surrebuttal, but I'll just put the question out there and
14	you can tell me if this sounds right. One of staff's other
15	recommendations for the residential program in the event that
16	the Commission approves it is that residential program
17	participants be required to take service on Evergy's currently
18	effective time of use rates; is that correct?
19	A. That is correct.
20	Q. And is it your understanding that smart chargers
21	can allow EV drivers to program their charging to occur during
22	off-peak hours?
23	A. I do not know that.
24	Q. Okay. You are not familiar with the
25	functionality of what makes a smart charger a smart charger?

1	A. I am not familiar in detail with the
2	functionality of smart chargers.
3	Q. Okay. So the ability to program your charging
4	to take place off-peak, you are not familiar with that
5	functionality?
6	A. You mean, how the charger is programmable to do
7	that?
8	Q. No, just the fact that it does that. Are you
9	aware that smart chargers allow customers to plug in their
LO	charger when they come home from work, for example, but to
11	program a charger not to begin charging until off-peak hours.
L2	Are you familiar that that is one of the common functionalities
L3	of smart chargers?
L4	A. I am generally familiar with that, but as far as
L5	do all smart chargers operate the same, I don't know to say that
L6	that is true.
L7	Q. Okay. That's fine. I don't need to ask you
L8	questions about it then. Are you familiar with what it means
L9	for an EV charger to have a safety certification from UL,
20	Underwriters Laboratory, or another nationally recognized
21	testing laboratory?
22	A. I am not familiar in detail with what.
23	Q. Okay. No problem. We'll move on. Just one
24	more topic here. So on page would you please look at Page 2
25	of your surrebuttal testimony?

1 Α. Okay.

2

5

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- Ο. This is surrebuttal now. So starting at Line 18, the question asks: Does Staff has a concern regarding 3 4 Mr. Wilson's recommendation to remove Evergy's requirement that commercial program participants provide charging information to 6 Evergy. And your response is: Yes, having access to EV 7 charging data will help to understand when EV charging occurs 8 and will help to develop cost based rates for all customers. 9 And that is the entirety of the response to that particular question. Do you see that there? 10
  - Α. Yes.
  - Would you agree, Ms. Kliethermes, that for any Ο. commercial customer that participates in this program and separately meters their EV charging stations that Evergy would be able to use meter data to understand when EV charging is a occurring?
  - Α. So it depends. Because the separately metered part per the tariff also includes the load of operating the station and the -- I think it is allowable up until a certain percentage of ancillary usage such as lighting. So it's not going to -- the separately metered won't meter solely EV charging. So it really -- there's a lot of other usage allowed under that meter. So if you're looking at the charging data and you only want to look at the charging information, then it is going to have to come through the -- through the EV charging

data solely.

- Q. So if you are not an expert in this sort of analysis that's fine, but would you agree that if you know -- we don't need to flip to the tariff, but if you know that lighting load is 10 percent of the load on a particular meter and that the rest is EV charging stations -- well, first would you agree that lighting load, the load profile of lights probably looks different from the load profile of DC fast charging stations, for example?
- A. So, I just used lighting as an example because that's mentioned in tariff. But it's up to 5 KW of ancillary service. So what those ancillary services may be, you know, that is unknown based on this tariff. It's the meter -- the separate meter is going to have other usage other than EV charging.
- Q. Right. Understood. So if you could think of just a very simple hypothetical with me. And thanks for glancing at the tariff to remind us all of that 5 kW ancillary service. So if you have, let's say, just one 50 KW DC fast charging station, which is about the smallest -- well, not the smallest, but -- having only one station it might be considered a small deployment. You have one 50 KW DC fast charging station and then 5 KW of ancillary load and you analyze the load profile of that meter, would you agree that you would be able to see when that 50 KW charger was -- was charging and be able to

distinguish that from 5 KW of ancillary load?

- A. So in the hypothetical that you are using, you would have to assume that the 5 KW was a constant load. And specifically, kind of the importance of looking at the EV charging is looking at the hours that are being charged in and also the duration of the charges. And so part of this is a charge may not be constant and the 5 KW may not be constant. So I think in hypothetical, you have to assume the load is constant and I think that that is probably not a reasonable -- it's not 100 percent likely outcome that I think relying on the meter data only is going to not provide you a clear picture as getting -- having access to the EV charging data.
- Q. I don't want to quibble with you, but just to pick this apart a little bit further, even if the -- even if the 5 KW of ancillary load -- I'm trying to think of an example. But you know, maybe it is motion sensor activated lights.

  Right. So if the lights aren't on all the time, they're only there when somebody walks by. So there's that 5 KW of ancillary load, is irregular, but it's only 5 KW at the most. Right?

  When someone starts charging at the 50 KW DC fast charger, you're going to see a spike in that load profile. Right. And so even if -- regardless of what that 5 KW ancillary was doing, don't you think if you were looking at a load profile on a 24-hour period, you'd be able to pick out when 50 KW worth of load, i.e. the DC fast charger, was online versus the ancillary

load. Right? Don't you think it would be pretty easy to
distinguish -- not distinguish. You don't need to distinguish
things. Don't you think it would be pretty easy to see when the
DC fast charger was operating because you know that it's so much
larger than the 5 KW of ancillary load?

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

2.5

- So I think you -- I think I would agree that you Α. will see when comes on if. It's When it comes off and the duration about and amount of the total charge and in what time period that occurs, I think is where you're going to lose the specific data. But I think you will be able to see when it comes on given that that charger is 150 KW. If you're looking at more of a -- so under the tariff it could be a 6.6 KW charger, then it's going to be harder to distinguish that turn on. So if you're looking at the large 150, I do agree, you will probably see when it comes on. How that lasts through the duration of the charge and over time, I think that's where it gets hard to distinguish that and especially at the lower KW level that the charger is because I do not think there is a minimum that -- that is -- like, if a 6.6 is the smallest charger, but it could be as small as 6.6 or it could be larger, you know, than a 350. So it really just depends on what sort of charger you're looking at.
  - Q. Okay. Ms. Kliethermes, you've been a great sport going down that hypothetical with me. Thank you. I have just a couple more questions on this topic. Would you agree

1	that any commercial customer that installs EV charging stations
2	that are billed to the public is likely to see Evergy's Clean
3	Charge Network chargers as being in competition with them?
4	A. Can you restate your question?
5	Q. Yes, certainly. So thinking about commercial
6	customers who might participate in Evergy's program and offer EV
7	charging to the public, do you think that those commercial
8	customers might see themselves as being in competition with
9	Evergy's Clean Charge Network?
10	A. I this is outside of my testimony. I could
11	see if they if Evergy and the commercial customer are
12	providing the same service to public customers who are EV
13	drivers, I can see where that could be viewed as competition.
14	Q. Okay. Thank you. And do you think that since
15	they're in competition or if they feel that they are in
16	competition, that these commercial customers might be reluctant
17	to turnover data about their business operations to a
18	competitor?
19	A. I I don't know.
20	Q. Okay. Fair enough. That's fine.
21	MR. DUNBAR: That's all I have. Thank you so
22	much Ms. Kliethermes. I appreciate this discussion.
23	Your Honor, I have no further questions.
24	JUDGE GRAHAM: Thank you. Does Evergy have any
25	questions for this witness?

```
MR. FISCHER:
                                    This is Jim Fischer. We have no
 1
 2
     questions.
                 Thank you, Your Honor.
 3
                      JUDGE GRAHAM: Any questions from the
 4
     commissioners? All right. Ms. Kliethermes, I have a few
     questions for you.
 5
     OUESTIONS BY JUDGE GRAHAM:
 6
 7
                      Staff witness Ms. Lange was asked if the
              Ο.
 8
     Commission were to support the Residential Electrical Vehicle
 9
     Outlet Program -- were you original online to hear her
10
     testimony?
11
                      I was online, but that's been a couple of days
              Α.
12
     ago.
13
                      Right. I'll try to ask something more specific
              0.
14
     than whether you were online to hear. I just wanted to start
15
     with that. Are you able to address the question as to why
16
     doesn't Staff support ChargePoint's recommended modifications
17
     for program to require --
18
              Α.
                      Yes.
19
                      -- rebates be based on either the purchase of an
              0.
20
     EV charging unit or a NEMA outlet. Can you address that
21
     question?
22
                            So Staff's surrebuttal testimony or my
              Α.
                      Yes.
23
     surrebuttal testimony does not specifically oppose -- actually,
24
     I don't -- I don't think I mentioned ChargePoint's
     recommendation for the NEMA outlet. And regarding the charger,
2.5
```

I think ChargePoint earlier clarified -- so in my testimony, I 1 2 point out that ChargePoint had that -- or my understanding of ChargePoint's testimony was that the charger -- the purchase and 3 installation of a charger what was an option but not a 4 5 requirement and I think ChargePoint earlier directed the 6 testimony that they -- that ChargePoint's recommendation is that 7 the charger be a requirement rather than an option. 8 Q. All right. Let me look here. I'm checking my 9 notes. Were you one of the line when Ms. Lange was asked 10 whether rebate participants should be required to sign up for a 11 time of use rate for a minimum amount of time? 12 Α. Yes. 13 Do you agree with her response or have anything 0. 14 to add if you recall her testimony? 15 So if I recall her testimony correctly, her Α. response was yes, they should sign up for a minimum amount of 16 17 time and I agree with that statement. 18 Do you have anything to add, any other thoughts 0. 19 with regard to that? I mean, just that customers should -- especially 20 21 with participating in a rebate program, should be -- should be 22 required to sign up for the currently effective time of use 23 rate. 24 Do you have any additional thoughts with regard 0. 25 to consideration needed for net metered customers to avoid

unduly discriminating against net metered customers if time of 1 2 use rates are mandated given they cannot currently participate in the company's TOU program? Do you have anything on that? 3 4 Any thoughts? 5 So is your question -- I think Staff is 6 supportive of finding and working other the utilities and other 7 parties to find ways for net metering customers to participate 8 in TOU programs. Was that your question? 9 0. Yes, ma'am. Okay. Were you on the line when Ms. Lange was also asked about Xcel's -- Xcel Colorado's 10 11 residential managed charging pilot program? 12 I was on the line for her testimony. I do not Α. 13 recall that specific question. 14 Q. Are you familiar with the program? 15 I am not familiar with the program. Α. 16 Fair enough. Besides anything else we've talked 0. 17 about, if the Commission were to approve an EV pilot program, 18 what do you think would be useful data or metrics for the 19 Commission and stakeholders to get from the pilot and what terms 20 are required? 21 I'm sorry. Go ahead. I'm sorry. Α. 22 Yeah. Let me ask again. If the Commission were 0. 23 to approve the EV pilot program, what do you think would be useful data or metrics for the Commission and stakeholders to 24

get from the pilot and what terms or requirements for the pilot

2.5

would help get that information?

- A. So I would direct the Commission to the stipulation and agreement filed in Ameren Missouri's EV charging case. And in that stipulation there was quarterly reporting data and there was annual reporting data that was lined out in detail within that report or within that stipulation. That's where I would direct the Commission to set out the reporting requirement and the metrics.
- Q. Okay. Some terminology. Under Evergy's proposal are the transit and business EV charging service rate it describes that, quote, the rate removes the demand charges while retaining a small local facility demand charge to incentivize managed charging. Can you explain what the, quote, facility demand charge is?
- A. So the facility -- I can tell you how the facilities demand charges is billed and -- now one thing in -- to get into what costs are included in recovery of the facilities demand charge, that is a greater question that is generally looked at class cost of studies in a rate case. But as far as what are the facility -- how is the facilities charge billed and based on the tariff, the facilities charge will be billed based on the highest maximum demand recorded in the last 12 months for that customer.

So if the customer had a demand -- a high demand in July of, let's say, 250 KW, that 250 KW will be what that

customer's required to pay until either a higher demand takes
place or 12 months elapses and a new demand is set.

- Q. Okay. With that response, have you distinguished between, quote, facility demand charge and, quote, demand charge? I'm not sure we --
- A. So the demand charge that is on Evergy's currently effective LGS rate tariff is -- and actually, if you give me a second I could pull up the LGS rate tariff. But the demand charge -- I can tell you the value of that demand charge. But the demand charge itself is not based on the highest demand over a 12-month period of time, but it is based off of the highest demand in a given month. And let me pull up -- I don't want to misspeak here. Okay. Yes. There is -- the demand charge is also based off of the differential between dates demand and a separation between seasonal demand and seasonal billing. These are parts of the current -- these are features of the current large general service tariff that are essentially removed for the purpose of the business EV and transit EV charging.
- Q. All right. Are you able to say how might the removal of a demand charge while maintaining the facility charge help incentivize managed charging?
- A. So, I don't -- I mean -- so as far as -- so right now the facilities charge, the EV charging customer will have to pay the two point -- say \$2.21 -- rounded \$0.21 per KW

1 of billing demand, which is the 12-month demand. So I don't --2 because this is in effect for 12 months, I don't -- I don't know -- I don't know the Company's, kind of, logic or thoughts behind 3 how that is going to -- I'm not saying the charge is 4 5 unnecessary, but I don't know the connection between managed 6 charging. The thought could be that it keeps it -- that any 7 spikes in demand are more managed because the highest demand in 8 a 12-month period is what a customer will pay. 9 But these are things that would be looked at in the context of a class cost of service study in a rate case 10 11 where Staff could more fully develop and study these rates and 12 their design as far as it works with time of use charging. I am not saying it's not a necessary charge, but I think the last --13 14 how to rate in totality was designed, I cannot speak to, kind 15 of, its impact or how it incentivizes or doesn't incentivize 16 unmanaged charging. 17 But that what I can say is that if a customer 18 has a spike in demand in a given month, that facility -- they 19 will be required to pay that demand level for 12 months. 20 that could be the incentive. 21 Okay. Fair enough. That is all the questions Ο. 22 that I have. 23 JUDGE GRAHAM: In light of my questions, is 24 there any recross examination? Specifically, does OPC have any 25 further questions?

1	MR. CLIZER: Of a sort, yes, Your Honor.
2	JUDGE GRAHAM: You may proceed, Mr. Clizer.
3	MR. CLIZER: Let me clarify that it's not
4	necessarily a question, but I would point out to the Bench that
5	I believe the Bench has actually asked two separate Staff
6	witnesses a question regarding I don't mean to paraphrase
7	here, recommendation as to what information might be gained if a
8	program is approved. And I believe both Staff witnesses have
9	referenced a stipulation filed in the Ameren electrification
10	case, which again, believe is case ET-2018-0132. And I would
11	just offer to the Commission that as far as witnesses have made
12	reference to it, the Commission should take official
13	administrative notice of this document just so the record is
14	complete vis-à-vis this discussion. I'm going to stop there.
15	JUDGE GRAHAM: Well, Counsel as I stated before
16	earlier in the hearing, on the fly, I have to tell you I'm not
17	going to take official notice of an entire report and order. It
	going to take different motion of an emotic report and crack. It
18	may be that the Commission will do that, but not just on an oral
18 19	
	may be that the Commission will do that, but not just on an oral
19	may be that the Commission will do that, but not just on an oral motion. So we'll return to that question when we can refine it.
19 20	may be that the Commission will do that, but not just on an oral motion. So we'll return to that question when we can refine it. But you've made your point.
19 20 21	may be that the Commission will do that, but not just on an oral motion. So we'll return to that question when we can refine it.  But you've made your point.  MR. CLIZER: Absolutely.
19 20 21 22	may be that the Commission will do that, but not just on an oral motion. So we'll return to that question when we can refine it.  But you've made your point.  MR. CLIZER: Absolutely.  JUDGE GRAHAM: Do you have any other questions?

1	recross?
2	MR. DUNBAR: No questions. Thank you.
3	JUDGE GRAHAM: All right. Is there any other
4	and I didn't mean to select those two out ahead of other folks
5	here, but they were the folks that had those were the parties
6	that had cross-examination to start with. Do any other parties
7	at this point have recross on the basis of the questions from
8	the Bench? All right.
9	Now, in light of the fact that there has been
10	cross-examination, is there any redirect for this witness from
11	Staff counsel?
12	MS. MERS: Yes, there is, Your Honor.
13	JUDGE GRAHAM: You may proceed.
14	MS. MERS: This is Nicole Mers, again, and for
15	the record and for Staff.
16	REDIRECT EXAMINATION BY MS. MERS:
17	Q. Ms. Kliethermes, do you recall when OPC was
18	talking about the proposed rates charging for business and
19	transportation is offering a new service?
20	A. Yes.
21	Q. And you said that there is an existing tariff
22	rate so not under new service unless a time of use, do you
23	recall stating that?
24	A. Yes.
25	Q. Does Evergy have existing time of use tariffs?

They have existing residential time of use 1 Α. 2 tariffs. Their current commercial time of use tariff, I think, are frozen. However, if a customer is currently being served on 3 that time of use tariff, that also has EV charging, then yes 4 5 they would be subject to a TOU rate already. 6 0. And then you were asked some questions, I quess 7 from counsel for OPC, about some cost and you kind of walked 8 through the existing investment and prior investment. Do you 9 recall that? 10 Α. Yes. 11 How does that spend level compare to other Ο. 12 utilities? 13 So in -- to my knowledge that is a -- so taking 14 the total EV charging investment, the Clean Charge Network 15 that's currently in rate base and looking at the application as 16 proposed, that is significantly larger than any of the other 17 regulated utilities. I can't speak to any other non -- or 18 nonregulated or a non-- or any non-Missouri regulate utility, 19 but for the regulated utilities in Missouri, it is much larger. 20 Ο. Is Evergy -- do they have a largest customer 21 base of a Missouri utility? 22 Α. They do not. Combined, Evergy West and Evergy 23 Metro combined -- and I think if you are using the last annual 24 report for the utility, they have approximately 550,000 25 residential customers and the largest utility has approximately

1.2 million residential customers.

- Q. When you were calculating those figures, did your calculation include the 72 unidentified charging stations under the Clean Charge Network?
- A. They did not. So if the -- so given that part of the Clean Charge Network is not completely known what the cost of it may be, if you increase that -- it could be -- I think, if I recall right that estimate, I think we could be looking at a total, so an additional 5 million at the high level. So you could be looking at, you know, a 34 to 35, million in total, if the cost of Clean Charge Network expansion was approved.
- Q. Turning to your discussion with counsel for ChargePoint, do you recall questions about data collection?
  - A. Yes.
- Q. And what is your understanding of what customer data other utilities are collecting right now?
- A. I would have to look back -- I'd have to look back at -- the stipulation that I referenced earlier in directed the Commission to look at for charging data does have charging data as a part of the data that would be collected. So customers who are participating -- I can pull it up for sure. But it's my understanding that customers that are participating in Ameren Missouri's commercial rebate program, part of their requirements for data in the stipulation is EV charging load

1 data.

2

15

16

17

18

19

20

21

22

23

24

- O. How would Staff utilize this data?
- So the thought is that Staff would in the 3 Α. context of a rate case, would look at this data along with all 4 5 of the other hourly data to help determine cost -- you know, 6 cost -- hourly charging costs, how to better develop time of use 7 rates, demand charge rate, you know, all components of the rate 8 design for, you know, not just EV charging given that that is 9 and end use rate tariff in currently that has been prohibited in 10 the past. But if it was, you know, time of use charging for an 11 LGS class and add-in features that could be beneficial for EV 12 charging, you can have the whole class rate that still is 13 beneficial for EV chargers. Helping to build all class rates 14 that knowing the EV charging load.
  - Q. And why is that information important to Staff's development of rates for the future? Are there any underlying principles that helps support?
  - A. Well, so Staff -- well, obviously, you know, the underlying principles of, you know, looking at cost causation, also looking at trying to find out hourly costs for the whole system not just, you know, energy cost based on an hour. So all of that helps develop cost saved rates for all classes and all -- all customers.
    - O. Okay. Thank you.
    - MS. MERS: I have nothing further.

1	JUDGE GRAHAM: Okay. Thank you very much. I
2	have one more question I need to ask. Actually, it will be an
3	introductory question.
4	QUESTIONS BY JUDGE GRAHAM:
5	Q. Ms. Kliethermes, are you familiar with the
6	Kansas stipulation involving Evergy that has been testified to
7	previously in this hearing?
8	A. Other than the information shared within the
9	course of hearing, I am not familiar in detail with it.
10	Q. Okay. Well, you may not have an answer to this
11	question then, but let me ask it. If the Commission approves
12	any part of the rebate programs, would it be appropriate for the
13	Commission to impose an evaluation measurement and verification,
14	EM&V, requirement similar to the Kansas stipulation? And you
15	may not be about to answer that, but if you are, please do.
16	A. I will give it a shot. So from my experience
17	with EM&V report, I have not found that EM&V has provided useful
18	information for the cost of doing the report and putting the
19	information together. I think more information could be gained
20	by gaining the data, data collection and providing that to all
21	parties and being evaluated in a rate case more so than what an
22	EM&V report will show.
23	JUDGE GRAHAM: Okay. That's all I have. Is
24	there any recross from any party on the basis of my question?
25	Is there any redirect from Staff counsel on the basis of my

1	question?
2	MS. MERS: No, Your Honor.
3	JUDGE GRAHAM: All right. I think that we
4	thank you very much Kliethermes, Ms. Kliethermes.
5	Why don't we take a short break at this point.
6	Our court reporter has been at it for an hour and 45 minutes.
7	Why don't we break until 10:30 and we'll come back and we'll get
8	started with I believe the remaining witness is OPC's
9	witness, Mr. Marke; is that right?
10	MR. CLIZER: Yes, Your Honor. John Clizer with
11	OPC.
12	JUDGE GRAHAM: All right. Let's adjourn, take a
13	breather and come back and get going at 10:30. I've got 10:15
14	so that's 15 minutes.
15	(OFF THE RECORD.)
16	JUDGE GRAHAM: I've got 10:30 and I show that
17	our next witness is let's go at it this way. That was
18	Staff's case. Does that conclude Staff's case in this matter?
19	MS. MERS: Yes, it does, Your Honor.
20	JUDGE GRAHAM: All right. I believe we next
21	have witnesses from the Office of Public Counsel; is that right?
22	I think we established that before the break. Are you ready to
23	proceed, Mr. Clizer?
24	MR. CLIZER: I am ready to proceed.
25	JUDGE GRAHAM: And I think you have one witness,

1	Mr. Marke?
2	MR. CLIZER: Dr. Marke is our only witness.
3	Correct.
4	JUDGE GRAHAM: All right. If you want to
5	produce him, we'll get going.
6	MR. CLIZER: The OPC would call Dr. Geoff Marke
7	to the stand.
8	JUDGE GRAHAM: All right, Mr. Marke, are you
9	there?
10	THE WITNESS: I am here, Your Honor.
11	JUDGE GRAHAM: How do you do, sir. Would you
12	state and spell your full name and I'll administer the oath.
13	THE WITNESS: My name is Geoff, that's
14	G-E-O-F-F, Marke, M-A-R-K-E.
15	JUDGE GRAHAM: All right. Dr. Marke, if you
16	would raise your right hand, I'll administer the oath.
17	(Witness sworn.)
18	JUDGE GRAHAM: You may proceed, Counsel.
19	MR. CLIZER: Thank you, Your Honor. Again for
20	the purpose of the court reporter, this is John Clizer with the
21	Missouri Office of Public Counsel.
22	GEOFF MARKE, having been first duly sworn, testifies as follows:
23	DIRECT EXAMINATION BY MR. CLIZER:
24	Q. Dr. Marke, as you have already given your name,
25	could you please tell me by you are employed and in what

1	capacity?	
2	Α.	I'm employed by the Missouri Office of Public
3	Counsel and I am	the chief economist.
4	Q.	And have you prepared or caused to be prepared
5	testimony, which l	has been premarked as Exhibit 200 for the
6	rebuttal testimon	y and 201 for the surrebuttal testimony?
7	Α.	I have.
8	Q.	And did you have any changes to your testimony?
9	Α.	Yes.
10	Q. I	Did you prepare an errata sheet to identify the
11	changes to your to	estimony?
12	Α.	Yes.
13	Q. I	Have you received an email from me for OPC
14	Exhibit 204?	
15	Α.	Yes.
16	1	MR. CLIZER: Your Honor, I am not sure
17	procedurally how	to proceed. At this point I would asked for
18	the errata sheet	to be marked as Exhibit 204. I am going to
19	proceed as if it	is so marked unless you would ask otherwise.
20	,	JUDGE GRAHAM: Well, we're online here. Did you
21	send Mr. Clize:	r, didn't you send the errata sheet around the
22	other day on Frid	ay something? Did I not see that?
23	1	MR. CLIZER: I sent it around on Thursday in
24	preparation when	I thought Dr. Marke was going to be called that
25	day, not Thursday	. What am I saying? Wednesday. I sent it

around again this morning. 1 2 JUDGE GRAHAM: Okay. And so that is the document that you are referring to. And what is the exhibit 3 4 number going to be? 5 MR. CLIZER: According to my exhibit list, it would be a Exhibit 204. 6 7 JUDGE GRAHAM: We do have a court reporter at 8 least for a while this morning. I don't you -- why don't you 9 send that to our Staff person here that is assisting with this proceeding and we'll let her work with the court reporter on the 10 11 side. That's Jackie Keeley. I think you probably have email to 12 or from her already. You may have sent her that exhibit, but if you'd send it to her with a note that that's the exhibit that 13 you are referring to by number, I think that's just about the 14 15 best I can do here at this point. We'll take up this issue with 16 how to handle these exhibits later after our last witness. Are 17 you offering that exhibit now? 18 MR. CLIZER: I'm in the process of laying the 19 foundation in preparation for offering it, yes. 20 JUDGE GRAHAM: Well, why don't you go ahead with 21 your witness and when you're ready to offer the exhibits, we'll 22 see what we've got. 23 BY MR. CLIZER: 24 Dr. Marke, is this the errata sheet that you Ο. 25 prepared regarding your rebuttal testimony?

1	A. It is.
2	Q. And can you very briefly describe the nature of
3	the change being made in this errata sheet?
4	A. Sure. I admitted four counties within the
5	Evergy service territory, four counties that identified the
6	number of registered battery and plug-in electric vehicle cars.
7	It raises the total 17, to a total of 1,412 registered vehicles,
8	electric vehicles in both the Evergy Metro and Evergy West
9	service territory.
10	Q. And with this change in mind, are the rest of
11	the statements and answers given in your rebuttal and
12	surrebuttal testimony true and correct to the best of your
13	knowledge and belief?
14	A. Yes.
15	Q. And with this change in mind, if I asked you the
16	same questions that were posed in that rebuttal and surrebuttal
17	testimony, would your answers today be the same or substantially
18	similar?
19	A. It would.
20	Q. All right. Thank you.
21	MR. CLIZER: Your Honor, I would move for the
22	introduction of OPC Exhibit 200, the rebuttal testimony of
23	Dr. Geoff Marke, which comes in both a public and confidential
24	version; Exhibit 201, the surrebuttal testimony of Dr. Geoff
25	Marke; and that Exhibit 204, which is Dr. Marke's errata sheet

1	with regard to his rebuttal testimony.	
2	(WHEREIN; OPC Exhibits 200P, 200C, 201 and 204	
3	were offered into evidence.)	
4	JUDGE GRAHAM: Are there any objections to any	
5	of those Exhibits, 200, 201, and 204? Hearing none, the record	
6	will reflect that they are admitted into evidence.	
7	(WHEREIN; OPC Exhibits, 200P, 200C, 201 and 204	
8	were received into evidence.)	
9	JUDGE GRAHAM: Before we go on though,	
10	Mr. Clizer and maybe your witness, maybe Dr. Marke testified to	
11	this, but which one of the earlier exhibits and you said	
12	this, but which one of the other earlier exhibits was subject to	
13	correction by the errata sheet?	
14	MR. CLIZER: Dr. Marke is correct to say that	
15	the errata sheet is correcting the rebuttal testimony.	
16	THE WITNESS: It is.	
17	JUDGE GRAHAM: And that was 201?	
18	MR. CLIZER: That is 200.	
19	JUDGE GRAHAM: And are you able to say and I	
20	don't mean to put you on the spot, but what page? Was it a	
21	single page involved?	
22	THE WITNESS: It was, Your Honor. It was Page	
23	9, Line 8.	
24	JUDGE GRAHAM: Okay. And just in case, if you	

```
exhibit question, what number is being corrected? Tell me what
 1
 2
     the incorrect number is.
                      THE WITNESS: There were four counties that were
 3
 4
     omitted. So they are just additional numbers, Your Honor, added
 5
     to that table.
 6
                      JUDGE GRAHAM: Okay. And you told us what --
 7
     these are numbers that should be added into the original numbers
     in the official exhibit?
 8
 9
                      THE WITNESS: Yes, Your Honor.
                      JUDGE GRAHAM: And so what is the exact number
10
11
     that is be added that we will add into the original number?
12
                      THE WITNESS: The revised total should read as
13
     follows, 1,305 battery, plus 107 plug-in equals 1,412.
14
                      JUDGE GRAHAM: Okay. Thank you for the
15
     clarification. Now, I did not hear any objection to any of the
16
     three exhibits and they are, again Mr. Clizer, 200, 201, and
17
     204; is that right?
18
                      MR. CLIZER: Yes, Sir.
19
                      JUDGE GRAHAM: Hearing no objections, they be
20
     admitted into evidence. You may proceed.
                      MR. CLIZER: I tender the witness for
21
22
     cross-examination.
23
                      JUDGE GRAHAM: All right. I am showing on my
     list that Staff is the first party up for cross-examination.
24
2.5
    Does Staff have any questions for this witness?
```

1	MS. MERS: Yes, Your Honor.	
2	JUDGE GRAHAM: You may proceed.	
3	CROSS-EXAMINATION BY MS. MERS:	
4	Q. Good morning, Dr. Marke.	
5	A. Good morning.	
6	Q. For the record, this is Nicole Mers for Staff.	
7	Did you have an opportunity to hear and it's been a little	
8	bit now, but last Tuesday Mr. Caisley's testimony?	
9	A. Yes.	
10	Q. And he called into question your data regarding	
11	EV adoption numbers in St. Louis compared to Kansas City. Did	
12	you agree with his critique?	
13	A. I did not.	
14	Q. So you don't agree that there are more EVs per	
15	capita in Kansas City compared to St. Louis?	
16	A. Mr. Caisley cited a number in excess of I	
17	want to say in excess of 3,600 in their service territory. My	
18	workpapers, you know, which included Missouri Department of	
19	Revenue numbers, as well the Department of Energy total	
20	registered vehicles by county and by state. What Mr if I'm	
21	led to believe what Mr. Caisley said, the only way that that	
22	would be possible is if Evergy doubled more than doubled	
23	their overall EV adoption in half a year, in 2021. I call into	
24	question that for so many reasons. One, they should have if	
25	the Company did actually have those numbers, why didn't they	

lead with that in their testimony that they're going gangbusters 1 2 in terms of EV adoption? Two, because right now I'm sure a lot of people are aware there is a chip shortage, you know, electric 3 vehicles and all cars for that matter, are at a premium. 4 5 three, again, it runs counter to the empirical, publicly 6 available data provided by both the Missouri Department Revenue 7 and by the Department of Energy. What he cited wasn't -- was an EPRI study, we 8 have never seen this EPRI study. It wasn't in their workpapers. 9 The first we heard of this number was in our hearing. But I can 10 11 be sure that we'll absolutely DR this in a future rate case 12 because I cannot -- I have a very difficult time suggesting that 13 those numbers are accurate. Even if they were accurate, they 14 would still not approach what you are seeing in the Ameren 15 service territory. Our Ameren service territory numbers included just St. Louis County, St. Louis City, and St. Charles 16 17 County. We didn't even add any of the additional footprint that we're talking about here. 18 19 So no, Evergy numbers are not nearly as good as 20 they are in St. Louis. 21 And just to heed advice from the judge earlier Ο. 22 in the proceeding, could you explain what EPRI stands for and 23 what the organization is? EPRI is sort of a research arm of electric --24 Α. investor-owned electric utilities. I think believe it actually 2.5

- might be an offshoot of the Epson Electric Institute. Off the top of my head, I can take an educated guess as to what the acronym stands for, but I believe it's Electric Power Research Institute. EPRI goes ahead and provides, for a fee and ratepayers pay for this fee, research for, you know, particular utilities and for the industries at large.
  - Q. Did Evergy cite any other EPRI study -- or the EPRI study you're talking about, is that the one cited to support its 2015 CCN project?
  - A. That's a good question. So we actually DR'd the EPRI study cited in Mr. Caisley's testimony. They provided a 2015 study that showed three sets of data, a low, a medium, and a high adoption rate over a number of years. Those numbers haven't come to fruition by any reasonable stretch of the imagination. Those numbers -- you know, the Greater Kansas City in Evergy's Missouri service territory haven't come close to hitting what those the projected numbers are.
  - Q. And was that study updated to include assumptions for the relevant program use in this case?
    - A. No.

2.5

- Q. So would you, based on that, agree that the EPRI study is reliable?
- A. No. Their own witnesses couldn't explain how these numbers came to be. You know, I believe our counsel crossed one of Evergy's witnesses and their response, if I

recall correctly, was the registered vehicles and then he -- an 1 2 algorithm method that determines cars that come in and out of that service territory. I interpret that as a black box number. 3 Again, we want to try to be as rational as possible when 4 5 evaluating these programs. We've got empirical data to 6 substantiate whether or not EV adoption is taking place. 7 By all reasonable metrics EV adoption is not 8 taking place in the Greater Kansas City despite the copious 9 amount of dollars and EV charging stations. In fact, the 10 situation is so unique that effectively right now you have a 11 control and treatment group in front of the Commission where 12 Evergy serves as that treatment, i.e. let's drop \$16 million in 13 costs of buildout a Clean Charge Network, versus St. Louis, the 14 The control induced more cars doing nothing other than 15 having affordable rates is what I would argue. Induced more car 16 or more EV adoption than what you saw in the Evergy service 17 territory. Everything that you're seeing here, effectively what 18 you're talking about is a pilot study that's already been done. 19 We already have a pilot study. 20 What this application is just an additional --21 we're throwing money at an answer we already know. At this 22 point --23 Q. So speaking of your controlled group example, do you recall Mr. Caisley last Tuesday also stating that the 24 2.5 St. Louis numbers benefit from generous subsidies from Illinois

-- for Illinois drivers and that the lack of stock in Kansas 1 2 City would impact the numbers in your testimony. Did you consider those factors? 3 I did after he said that. I would note that in 5 Illinois -- Illinois just passed, as in September of 2021, a 6 subsidy, a tax rebate subsidy effectively for -- to promote 7 electric vehicles. I don't see how less than 30 days could have 8 impacted EV adoption in the greater St. Louis area to offset 9 what Mr. Caisley's speaking of. 10 Even more so, you would have to be registered to 11 take part in that rebate, you would need to be a registered --12 you would need to be registered in the state of Illinois. You 13 would not be an Ameren Missouri customer. Mr. Caisley surmises 14 that there would be a greater stock of course in the Greater 15 Illinois area than there is in the Greater Kansas area. I am 16 not sure if Mr. Caisley's is that familiar with the Greater 17 St. Louis Metro area on the Illinois side. To my knowledge I am 18 not aware of many electric vehicle charging dealerships in East 19 St. Louis. 20 Turning back to the EPRI study, would you agree 21 that the EPRI load shapes are appropriate for this case? 22 Α. No. 23 Q. Another study that was provided in this case was 24 the ICF analysis, do you recall reviewing that? 25 Α. T do.

1	Q. And would you agree with the EV market as a
2	whole evaluation method?
3	A. If I understand the question correctly, the ICF
4	method was effectively this is what would happen if there
5	were a lot of EV cars adopted. It would be good for the utility
6	as a whole. Why we paid good dollars or ratepayer dollars to
7	come to this conclusion for a third party is beyond me, but it
8	is consistent with a lot of the studies I've seen that Evergy
9	has farmed out to third parties.
10	There was no cost-effective study on the
11	program, on the portfolio, on the case at hand. We know that
12	having a lot of EV cars induces better revenues for the utility.
13	Whether or not an EV charging station is the right answer, I
14	mean, that is the big problem here, is that we don't presuppose
15	that having more EV charging stations is going to induce more
16	electric cars. I would argue having more affordable rates would
17	go a lot farther based off the evidence I've seen looking at the
18	control and treatment group in St. Louis and Kansas City as to
19	EV adoption.

- Q. Another study cited in support of the EV charging in this case is the Idaho National Lab Study quoted on Page 3 of NRDC's surrebuttal testimony. Did you read that three surrebuttal testimony?
  - A. I did read it.

20

21

22

23

24

25

Q. And are you familiar with that study?

1 A. Very.

- Q. Do you agree those conclusions are applicable in this case?
- A. No. I cited the Idaho National Lab Study in the first electrical -- we've had about five electric vehicle charging dockets it front of this commission, not including the many workshops. So you know, I mean, clearly this commission is supported of EVs, but the very first electric vehicle docket I cited the Idaho study. And I actually have it in front of me and I want to quote this from my Ameren direct. Quote, the answer is clear despite installations of extensive public charging infrastructure. In most of the project areas, the vast majority of charging was done at home and work. Nevertheless, the projects demonstrated that a ubiquitous charging network is not needed to support electric vehicle driving.

Literally, the Idaho lab -- and that's Page 10 and Page 11 of my rebuttal testimony from that Ameren case. It is a 2016 study. The Idaho National Lab was huge. I mean, it looked at hundreds of thousands of hours of EV charging driving, of numbers. In the -- what the Idaho National Lab did was verify exactly what we found out five years later with the Clean Charge Network, that nobody was using this network. They were all charging at home. The ubiquitous charging network wasn't needed to go ahead and induce further EV adoption.

O. Do you have Mr. Caisley's surrebuttal testimony

in front of you? 1 2 Α. I can get it. If you could and then go to Page 15 and tell me 3 0. 4 when you are there, I would appreciate it. Thank you? 5 I'm sorry. I want to -- Ms. Mers, did you ask 6 me about the Idaho Lab Study or the National Academy of 7 Scientist Study? I'm sorry. 8 Q. Just the Idaho National Lab Study. 9 Α. Yeah, no. I'm there. I'm sorry. What page? 10 Page 15, Lines 9 through 13? Q. 11 Okay. I'm there. Α. 12 So the summary of that is that OPC fails to see 0. 13 how the proposed rebates, EV rates in the CCN are all 14 interrelated to a customer understanding purchasing and owning an EV; is that fair? 15 16 It is. Α. 17 Ο. How did you reconcile that statement with OPC's 18 positions in the recent Ameren and Empire docket? 19 I would say that that runs counter to both of us 20 dockets. We -- you know, I don't know how much I can speak 21 about the Empire study -- or the Empire docket, but I'm 22 definitely looking forward to speaking on the record to the 23 Commission about, you know, how well Staff, OPC, and a willing 24 utility that is reasonable could come together to work towards a

fruitful EV charging station portfolio. With Ameren Missouri we

2.5

came to a stipulation and agreement with that utility to offer rebates in a much more reasonable manner from our perspective.

Primarily being the fact that Ameren doesn't have -- already doesn't have 900 EV charging stations, you know, littered throughout its service territory.

These rebates in particular, you know, for the Evergy service territory, I mean, are twofold. I mean, one is for the station itself. The other one is for giving money to people that already have EV cars, which you know, again this is one of your bang your head at the wall moments. I don't know why we're \$500 to somebody that already has an electric vehicle car. That's a lot of money. That is all a lot of money to sit there and justify, you know, giving that to a customer that already has an EV car. So, you know, it begs all sorts of questions as to really what the goal of this program is.

- Q. Now, turning back to Mr. Caisley's live testimony last Tuesday, did you hear him testify that the amount of charging induced would be too small to increase peak significantly?
  - A. I did hear him say that.
- Q. Could you explain how an amount of charging too small to significantly increase peak and can then significantly can reduce the same peak to provide benefits?
  - A. I can't.

2.5

Q. Just a few more. In your rebuttal testimony on

Page 14, you mention the large investment induced by Elliott
Management that resulted in Evergy Sustainability Transformation
Plan. When you say induced, can you explain what that means?

2.5

A. When Evergy first applied for PISA, they provided -- and I think this is a requirement by statute that they've got to have a public hearing to announce their plan projects moving forward. In the first one I attended live asked a number of questions that basically centered around the observation that Evergy wasn't investing nearly as much money as Ameren in their PISA. The response that I got was, Well, Geoff, we already have. You know, we've already -- we've invested a ton of money. It's one of our reasons why our rates are -- you know, we've had multiple rate cases and you can look at that. But we've already had AMI meters in place. We already have, you know, the software to support that AMI. You know, the PISA is a supplement to that.

As soon as Elliott came in, lo and behold within the next PISA docket, the combination of the PISA and Evergy Sustainability Transformation Plan, now we're talking collective close to \$9 billion in planned investment. One way to go ahead and support trying to find investment that doesn't currently exist is to build out load and to build out that distribution system in particular. That's exactly what this program can do right now as it is drafted. That is reason -- it's one of the primary reasons we object to it and I believe Staff objects to

it. It's because they can just needlessly build out that distribution system to meet those peak energy uses.

The fact that you don't have the time of use connected to that, the fact that there's very little evidence or direction as to where these are going, why we're doing it, all goes ahead and supports the idea that the goal of this is really just build out cap ex, and build out cap ex and build out cap ex is very conducive to that Elliott number. Which you know, again, I'll point out if the goal is to increase EV adoption, affordable rates are going to go a long way in helping increase EV adoption. That's something the Company cannot say in my opinion right now.

Q. Finally, there's been quite a bit of discussion about third-party charging providers and the interactions that they would have in this case. How do you think a ratepayer-funded command control EV charging stations would help or hinder competition?

A. It would hurt it. Unequivocally hurt it. Look no further. A lot of the focus on the competition, you know, I think has been misguided. The idea is well, you know, ChargePoint's in this case. And it's not just about ChargePoint or having EVGo. It's about locking your -- it's about what is great about the market. And what's great about a market is variety. What's great about a market is that risk -- that skin in the game risk that induces innovation, that induces

2.5

competition. And really what I am speaking to -- look at the CCN network. What is the CCN network? That's a command control network that went into place that is not being utilized. That's effectively a stranded asset. We know that because they're not getting any revenues. They're not getting the revenues to cost its annual upkeep. They sure as heck aren't not getting enough revenues to go ahead and cover its overall total cost. It's questionable whether it ever will. One of the reasons why is because they are slow charging stations. I would argue that it's effectively close to being obsolete technology or will be in the future.

When you look at the EV -- you know, and this is in ChargePoint's filing at the FCC. I mean, one of the biggest risks that ChargePoint faces is the fact that this is a fast moving world. You know, in Europe, we've got wireless charging. Can we sit here and say in five years, conceivably we might -- wireless charging might be the way to go and nobody wants to do wires because of the liability or because of the lack voltage, absolutely. Those would be stranded assets.

The fact that the federal government is coming in and throwing a hundred million dollars on top of this to go ahead and ease range anxiety concerns just nullifies the whole rationale behind this -- this portfolio. AB&B, for example, just released a press release, I want to about a week ago, about creating the fastest charging station yet and that it can, you

know, charge vehicles in three minutes and, you know, four cars 1 2 at a time. Absolutely -- you're going to see leaps and bounds in the technology moving forward. My concern as a ratepayer 3 that is now being asked to be an investor effectively in this 4 infrastructure is, will it still be used. Right now we know it 5 6 is not being used at all. So you know, what makes us believe that this new pilot is best better than the old pilot? 7 8 MS. MERS: Thank you very much. I have nothing 9 further. 10 JUDGE GRAHAM: Thank you. Does MECG have any 11 questions for Dr. Marke? 12 MR. WOODSMALL: Yes, Your Honor. 13 CROSS-EXAMINATION BY MR. WOODSMALL: Good morning, Dr. Marke. David Woodsmall for 14 Q. 15 MECG. 16 Α. Good morning. 17 Ο. Working back through your errata sheet, you 18 provide some additional numbers on electric vehicles in the 19 Evergy service area; is that correct? 20 Α. That's correct. 21 And despite the fact that the number of electric Ο. 22 vehicles by adding in those four additional counties, the number 23 of electric vehicles has increased slightly, does your 24 conclusion they are on Line 11 to 12 that there are more EV 2.5 charging points than EV cars in the Evergy service territory

1	still apply?	
2	A. It does.	
3	Q. Okay. Let's talk ratemaking. Are you familiar	
4	with the ratemaking methodology in Missouri?	
5	A. I am.	
6	Q. Would you agree that a utility only improves	
7	earnings by increasing investment?	
8	A. Yes.	
9	Q. And would you further agree that giving the	
10	effects of depreciation on rate base over time, that absent	
11	these further investments, a utility's earnings will actually	
12	decrease over time?	
13	A. Yes.	
14	Q. So would you agree then, giving the effects of	
15	depreciation that utilities are constantly looking for	
16	opportunities to invest?	
17	A. Yes. And I believe that Elliott STP bears that	
18	out.	
19	Q. Do you believe that that same motivation is	
20	reflected in the portfolio in this case?	
21	A. Absolutely. And I would just pause real quick	
22	and just point out that this is a nonessential service. It is a	
23	nonessential service. You don't need this for safe and adequate	
24	services and, moreover, we have every reason to expect the	
25	federal government to go ahead and provide close to \$100 million	

with more opportunities thereafter to go ahead and get funding 1 2 for this very thing. When you say \$100 million dollars, that is the 3 0. 4 Missouri specific portion of the federal dollars; is that 5 correct? 6 Α. It is. It is. If you think about, like, just 7 for a second Mr. Woodsmall, there's about 3,500 gas stations 8 roughly in this state. If we just put a DCFC fast charging 9 station at a 50 kW, you know, current, voltage, we can 10 effectively put a DC FC fast charger in just about every gas 11 station in the state. And that's all federal dollars. If that 12 existed, I think that pretty much nullifies any argument for 13 range anxiety. That is not borne by ratepayers. But yes, I 14 mean, obviously Evergy has a perverse incentive to build out 15 rate base and to put those ratepayer dollars onto a nonessential 16 service. 17 Ο. And in addition to the fact that investment will 18 drive up a utility's earnings, would you also agree that it 19 drives up customer rates? 20 Α. Unfortunately, yes. That's absolutely borne 21 out. 22 You mentioned earlier that affordable rates do Q. 23 more to help EV adoption than a clean charge network. Do you recall that statement? 24 2.5 T do. Α.

Q. And can you tell me, are you generally familiar		
with Evergy's rates?		
A. I am.		
Q. Can you tell me your understanding of the		
affordability of Evergy's rates?		
A. So I usually focus on a couple of data points to		
help me gauge the affordability of rates. One is the Epson		
Electric Institute's, you know, rate schedule book, which looks		
at rates across utilities and across service classes. It also		
looks at a EIA Form 861 data. Evergy Metro is well above the		
national average. That's despite not coming in for a rate case		
it roughly three years. Evergy West is more affordable.		
However, Evergy West is looking you've got to keep in my		
context is important because we have \$300 million in Storm Yuri		
costs that are coming down that are going to be borne those		
ratepayers.		
We also know, you know, based off of Evergy's		
as publicly stated that they're planning to coming in for a rate		
case the first quarter of 2022. This is to say nothing for the		
case the first quarter of 2022. This is to say nothing for the many surcharges where those rates and those costs are being		
many surcharges where those rates and those costs are being		
many surcharges where those rates and those costs are being borne and included in customers' bills. So they are		
many surcharges where those rates and those costs are being borne and included in customers' bills. So they are significantly higher than Ameren right today, for example.		

1 A. Yes, they will.

- Q. Are you aware of any recent publications indicating some fear of blowback from customers due to high utility rates?
- A. Yes, a number of publications actually. In fact, just yesterday I saw a Robert Woods Foundation poll that cited huge concerns over both fuel costs and just the overall energy transition. Probably the canary in the coal mine is looking at Europe. I am familiar with the U.S. Bank Report that cited, you know, the volatility in fuel costs, but also liability investments that have been made and its impact on the economy at large. So yeah, there's -- I mean, there's been protests in France over it. To suggest that -- I mean, look no further than, you know, our public comments in our many dockets and rate cases and public hearings.
- Q. That Bank of America Report, does it -- does it look towards Europe and say there are lessons to be learned from what's happening there on affordability of rates in the United States?
- A. It does. It does. It emphasizes that, you know, affordability -- to quote James Carville, it's the economy stupid. You know, at the end of the day that is a driving motivating factor that has an impact on everybody's lives, you know, from large industrious to fixed-income seniors on the residential rates.

1	Q.	Are you familiar with an entity called JD power?
2	A.	Yes, I am.
3	Q.	Does JD Power have a survey ranking electric
4	utilities on cust	tomer satisfaction?
5	A.	They do.
6	Q.	Will you agree that Evergy ranks well below
7	average in custom	mer satisfaction?
8	A.	Yes, I do. I would say that. They're not as
9	low as Empire, but they are low.	
10	Q.	And would you agree that the Number 1 factor
11	driving Evergy's	below average ranking in customer satisfaction
12	is rate affordability?	
13	A.	Yep. Absolutely. JD power looks at a number of
14	different metrics to kind of to pull that altogether, but	
15	that absolutely comes customer affordability is the Number 1	
16	concern of Evergy	y's customers.
17		(WHEREIN; telephone interruption.)
18	BY MR. WOODSMALL:	
19	Q.	Finally, on the issue of ratemaking
20		JUDGE GRAHAM: Hello?
21		MR. WOODSMALL: I'm sorry. Are you ready for me
22	to proceed, Your	Honor?
23		JUDGE GRAHAM: Yes, please. Something cut into
24	our WebEx program	n here. Go ahead. You may proceed. You may
25	need to repeat yo	our last question, please.

1		MR. WOODSMALL: I'll do that.
2	BY MR. WOODSMALL	:
3	Q.	So to tie this all together, will the investment
4	proposals in thi	s case likely affect rate affordability and
5	potentially caus	e further erosion in Evergy's below average
6	customer satisfa	ction?
7	Α.	Yes.
8	Q.	Are you familiar with a concept known as PISA,
9	plant in-service	accounting?
LO	Α.	Yes, I am.
11	Q.	And generally, are you familiar that that was
L2	created by statu	te?
13	Α.	Yes.
L4	Q.	And that statute provides for a certain
L5	moratorium perio	d if a utility elects the PISA accounting?
L6	Α.	Yes.
L7	Q.	Were you involved in Evergy's last rate case?
L8	Α.	I was.
L9	Q.	And when did rates go into effect in the last
20	Evergy rate case	?
21	Α.	It was the winter of 2018, I believe.
22	Q.	And when did Evergy elect to opt-in to plant
23	in-service accou	nting?
24	Α.	It would be January 1st of January 2019, I
25	believe.	

1	Q.	Okay. Moving on, have you heard the various
2	discussion regard	ding Evergy's request for decisional prudence
3	determination fro	om the Commission related to its Clean Charge
4	Network expansion	n?
5	Α.	Yes, I have.
6	Q.	Are you aware that Evergy already has 650
7	vehicle chargers	in its Missouri service area?
8	A.	I am.
9	Q.	And that through this case Evergy is simply
10	seeking to expand	d that from 650 to 800 electric vehicle
11	chargers; is tha	t correct?
12	A.	Or potentially more. Yes.
13	Q.	Do you know whether Evergy sought a similar
14	prudency determin	nation from the Commission with regard to the
15	original 650 veh	icle chargers?
16	A.	They did not.
17		MR. FISCHER: Hello? Hello? Hello?
18		MR. WOODSMALL: I can hear you, Jim. Jim, did
19	you need somethin	ng?
20		MR. FISCHER: I'm sorry. I should have been on
21	mute.	
22	BY MR. WOODSMALL	:
23	Q.	So go back to that previous, do you know whether
24	Evergy sought a	similar prudency determination from the
25	Commissioner with	n regard to the original 600 vehicle chargers?

Τ	i believe your answer was no, they hadn't?	
2	A. Correct.	
3	Q. Instead, Evergy simply built the charging	
4	network and then sought recovery in a rate case; is that	
5	correct?	
6	A. That's correct.	
7	Q. So Evergy was comfortable making a managerial	
8	decision to construct 650 vehicle chargers then, but now says	
9	that it needs assurances from the Commission to simply build 150	
10	more; is that correct?	
11	A. That's correct.	
12	Q. We've had much discussion throughout this case	
13	regarding the Commission statements in its 2014 report and order	
14	regarding that Evergy Clean Charge Network. Evergy has	
15	repeatedly emphasized that the Commission complemented its	
16	network. Can you provide a more complete picture based upon	
17	your understanding of the 2014 and 2016 report and orders?	
18	A. I can. In the 2014 report and order I think	
19	it has been offered I think is misleading in how Evergy	
20	portrayed it. The Company at that time didn't know where it was	
21	going. They didn't provide, you know, any great detail.	
22	Effectively, the Commission was generally supportive of electric	
23	vehicle electrification, but stopped at that point. The 2016	
24	case would have been the next opportunity for the CCN network to	
25	get approval and the Commission categorically rejected it for	

- all of the reasons that we have said in testimony over fear of competition, over stranded investments. The 2016 -- I believe it is 285 is that docket.
  - Q. Yes. Just to clarify the record, ER-2016-0285, I believe is what you're referring to?
  - A. I would employ -- and the current commission -- and I think Commissioner -- there's commissioners that were present that are still on the Commission that were present in that docket. But that report and order just categorically points out the problems inherent with the CCN network with this application. Nothing's changed. You know, that is the big problem here. Again, I would point to the fact that we've come to agreements with Empire and Ameren where it made sense and effectively this application is just more of the same.
  - Q. In fact, in that 2016 case, after a remand from the Court of Appeals, the Commission was so concerned about these costs that they segregated them into their own specific class; is that correct?
    - A. That's correct.

MR. DUNBAR: Your Honor, I'd like to -- excuse me. I'd like to register an objection. Mr. Woodsmall has been asking quite a lot of friendly cross-examination questions. I think it's pretty clear on this topic and several others that there's complete agreement between OPC and MECG and so it's not only a waste of time, it's also prejudicial for Mr. Woodsmall to

```
ask questions of Dr. Marke on areas -- on topics on which they
 1
 2
     agree.
                      MR. WOODSMALL: Your Honor --
 3
                      MR. CLIZER: John Clizer from OPC -- sorry.
 4
 5
     Clizer from OPC. Can I just ask who registered the objection?
     I wasn't able to see in time.
 6
 7
                      MR. DUNBAR: I apologize. That was Scott Dunbar
 8
     on behalf of ChargePoint.
 9
                      MR. WOODSMALL: Your Honor, may I respond?
                      JUDGE GRAHAM: Yes.
10
11
                      MR. WOODSMALL: Since this came up earlier in
12
     the hearing, I went and did some research on it. First off, I
13
     don't have a witness in this case, so obviously I'm going to go
     to the witness that I think will best know this information and
14
15
    be able to provide it for me. That said, I looked up
16
     cross-examination in the Black's Law Dictionary and it doesn't
17
    provide for any measure of hostility between a party and a
18
     witness. It simply says the examination of a witness by a party
     other than the direct examiner and that is what I am.
19
20
                      Moving more specifically to Missouri, the
21
    Missouri Administrative Procedures Act says that I may
22
     cross-examine -- this is Section 546.070 -- says that I may
23
     cross-examine, quote, on any matter relevant to the issues even
24
     though the matter was not the subject of the direct examination.
2.5
     I don't know what legal theory or doctrine Mr. Dunbar is relying
```

on, but certainly the Missouri Administrative Procedure Act 1 2 provides me the ability to cross-examine this witness. JUDGE GRAHAM: The objection will be overruled. 3 4 Proceed. 5 MR. WOODSMALL: Thank you, Your Honor. BY MR. WOODSMALL: 6 7 Moving on, I sent about three or four minutes 0. 8 ago a document to all of the counsel and I hope I copied you, 9 Mr. Marke. Did you get that? 10 Α. Yes. 11 And if counsel didn't get it, please let me know Ο. 12 so I can make sure I get it to everybody. Are you generally 13 familiar with Evergy's rate schedules? 14 I am. Α. 15 MR. STEINER: David, this is Roger from Evergy. 16 I don't think we've got it yet. 17 MR. CLIZER: Clizer from OPC I just want to 18 confirm that we did receive Exhibit 500 from Mr. Woodsmall, so 19 it has been sent. 20 MR. WOODSMALL: You're on there Roger. Let me 21 forward it again just to you. 22 MR. STEINER: Jim, did you get it by chance? 23 Jim Fischer? MR. WOODSMALL: Jim was on there as well. 24 25 MR. FISCHER: I just received it.

MR. WOODSMALL: So it may be just a little 1 2 delay. Go me to wait, Roger? MR. STEINER: No. You can go ahead, David, if 3 4 Jim has it. I have not seen it yet. 5 MR. FISCHER: This is just our effective rates; 6 is that correct? 7 MR. WOODSMALL: Yeah. It's several of the pages 8 from Evergy's current rate schedules. I think I'll explain it 9 more as we go. 10 MR. STEINER: I have it now. 11 JUDGE GRAHAM: Gentlemen, just be reminded when 12 you speak to identify yourself, and this is Judge Graham. 13 MR. WOODSMALL: I'll try to do better. Again 14 David Woodsmall, MECG. 15 BY DAVID WOODSMALL: 16 Did you say you're generally familiar with Ο. 17 Evergy's rate schedules? 18 This is Geoff Marke with the Office of Public Α. 19 Counsel. Yes, I am. 20 0. Would you agree that Evergy currently has rate 21 schedules for residential service, small general service, medium 22 general service, large general service, and large power service? 23 Α. Yes. 24 Ο. Would you describe what is shown --25 MR. WOODSMALL: Your Honor, what I have sent

around I have marked as Exhibit 500, which I believe is my first 1 2 preassigned exhibit number. So is that Exhibit 500 an okay designation with you? 3 JUDGE GRAHAM: Well, I don't have the order open 5 in front of me in EFIS. Were those the numbers that were dedicated to MECG? 6 7 MR. WOODSMALL: They are, Your Honor. 8 JUDGE GRAHAM: That is fine, then. Go ahead and 9 proceed. 10 BY MR. WOODSMALL: 11 Again David Woodsmall for MECG. Ο. 12 Would you describe what is shown in Exhibit 500? 13 These are Kansas City Power and Light company's Α. rate schedules for residential, small general service, medium 14 15 general service, large general service, large power service, and that's it. 16 17 0. Okay. And turning to the first one, the 18 residential rate schedule, can you tell me what the service is 19 that is actually being offered there? 20 Yeah. Shown in the availability section of the 21 residential rate schedule, the service being offered is electric 22 service. 23 Q. Okay. And that is a quote. The service is, 24 quote, electric service? 2.5 Α. Yes.

1	Q. Turning to the small general service rate	
2	schedule, can you tell me the service that is being offered	
3	there?	
4	A. One second. As shown in the availability	
5	section of the SGS rate schedule, the service being offered is	
6	electric service.	
7	Q. Similarly, can you tell me what the service is	
8	that's being offered in the medium general service rate	
9	schedule?	
10	A. As shown in the availability section of the MGS	
11	rate schedule, the service being offered is electric service.	
12	Q. Turning to the large general service rate	
13	schedule, can you tell me what the service is that's being	
14	offered there?	
15	A. As shown in the availability section of the LGS	
16	rate schedule, the service being offered is electric service.	
17	Q. And finally, on the large power, is the service	
18	being offered there, electric service?	
19	A. It is.	
20	Q. So under all these, would you agree then, that	
21	electric service is an existing service for Evergy?	
22	A. Yes.	
23	Q. Do you have Mr. Caisley's direct testimony in	
24	this case?	
25	A. I can get it. Okay.	

1	Q	<u>)</u> .	Attached to his testimony are a number of tariff
2	sheets. T	hey are	not numbered within the attachment, so I don't
3	know how t	o direc	t you to it other than to say, do you see the
4	tariff she	ets the	re?
5	А	۷.	One second.
6	Q	<u>)</u> .	And specifically, I'm going to ask you questions
7	about the	tariff	sheet for the electric transit service rate
8	proposal?		
9	А	۷.	Okay. I've actually got that. Okay.
LO	Q	<u>)</u> .	Would you describe Evergy's proposed electric
11	transit se	ervice p	rogram in this case?
L2	A	١.	Hold on a second. I've lost this again. Give
L3	me one sec	ond.	
L4	Q	<u>)</u> .	No problem.
L5	A	١.	Got a okay. Yes, seen in the applicability
L6	section it	provid	es electricity for purposes of charging
L7	electric p	oublic t	ransit vehicles. Yeah.
L8	Q	<u>)</u> .	Do you see above that a section entitled
L9	availabili	ty?	
20	А	١.	Yes.
21	Q	<u>)</u> .	Turning to the availability section of the
22	electric t	ransit	service program rate schedule, would you read
23	out loud t	he firs	t sentence under the availability provision?
24	А	١.	Electric service is available under the schedule
25	through on	ne meter	on the Company's existing distribution

1	facilities.	
2	Q.	So the service being offered as contained in
3	that availabilit	y section for electric transit service is
4	electric service	; is that correct?
5	Α.	Yes, it is.
6	Q.	Would you turn two pages to the tariff entitled
7	business EV char	ging service?
8	Α.	Okay.
9	Q.	Are you familiar with this proposed tariff?
10	Α.	Yes.
11	Q.	Would you describe what this proposal seeks to
12	do?	
13	Α.	Yeah, as seen in the same in the availability
14	section provides	, it electricity for purposes of nonresidential
15	customers chargi	ng electric vehicles.
16	Q.	Turning to the section immediately ahead of it,
17	the availability	section, would you read out loud the first
18	sentence under t	he availability provision?
19	Α.	Electric service is available under this
20	schedule through	one meter at a point on the Company's existing
21	distribution fac	ilities.
22	Q.	So what is the service that is actually being
23	offered to custo	mers under the business EV charging service
24	program?	
25	Α.	Electric service.

1	Q. So you would agree then that the service that is
2	being proposed to be offered under the electric transit service
3	rate schedule and the business EV charging rate schedule is
4	electric service, which is the same service offered under the
5	residential SGS, MGS, LGS and LP rate schedules?
6	A. Yes.
7	Q. Let's look at some specific examples. I believe
8	you talked about this briefly with Staff. Are you aware that
9	Kansas City Metro, the city itself already has transit vehicles
10	that are electric?
11	A. Yes.
12	Q. And Kansas City is able to charge its transit
13	vehicles, despite the fact that there is currently an Evergy
14	electric transit service rate schedule?
15	A. Right. So the electric streetcar or electric
16	buses would be charged under one of the current general service
17	rate schedules.
18	Q. So then this would not be a new service because
19	they're already able to access electric service under current
20	tariffs?
21	A. Correct.
22	Q. Are you aware that there are currently business
23	customers in Evergy's service area that are providing charging
24	service to its customers electric vehicles such as movie
25	theaters, shopping malls, restaurants, etc?

1	A. Yes.			
2	Q. And these customers are able to offer that			
3	service to its customers, electric vehicle charging customers,			
4	despite the fact that there is not currently a business EV			
5	charging rate schedule?			
6	A. That's correct.			
7	Q. Do you have an opinion as to what rate schedules			
8	these customers may be using to provide electric vehicle			
9	charging to their customers?			
10	A. Since those customers are nonresidential			
11	customers, they would rely on one of the current general service			
12	rate schedules.			
13	Q. Okay.			
14	MR. WOODSMALL: Your Honor, I would offer			
15	Exhibit 500 into the record.			
16	(WHEREIN; MECG Exhibit 500 was offered into			
17	evidence.)			
18	JUDGE GRAHAM: Do I hear any objections? Let me			
19	open that. Does that have a name?			
20	MR. WOODSMALL: We've marked as Exhibit 500.			
21	What it was identified as by the witness is some of Evergy's			
22	current generally available rate schedules for residential SGS,			
23	MGS, LGS and large power customers.			
24	JUDGE GRAHAM: Hearing no objections, Exhibit			
25	500 will be admitted into the record.			

(WHEREIN; MECG Exhibit 500 was received into 1 2 evidence.) BY MR. WOODSMALL: 3 Moving on, do you believe that any of the 5 services being proposed in this case would constitute renewable regeneration? 6 Α. No. 8 0. Do you believe that any of the services being 9 proposed here would constitute microgrids? 10 Α. No. 11 Do you believe any of the services being Q. 12 proposed in this case would constitute energy storage? 13 Not as filed, no. Α. 14 When you state not as filed, can you explain 0. 15 that? 16 In theory, you could use -- I guess you Α. Yeah. 17 could -- we could look at EV charging stations as a potential 18 storage offshoot. I say not as filed because, you know, the 19 batteries would need to be connected to the grid. Electric vehicles and their batteries would need to be connected to the 20 21 grid, need to have some sort of netting device that would look 22 at, you know, the amount of energy that is being consumed on 23 that meter versus how much of that is being put back in. I'm 24 not aware of any utility that's actively doing vehicle to grid programs at this point. You know, there's the potential of 2.5

- something like that, but the coordination of something and the
  work -- the labor and the hours that's going to be needed to
  make that happen is really far into the future at this point.

  Put it this way, this application is not going to be doing that.
  - Q. You believe that the proposed expansion of the Clean Charge Network is, quote, small scale?
    - A. I'm sorry. Could you repeat that?

2.5

- Q. Do you believe that the proposed expansion to the current Clean Charge Network is small scale?
- A. I mean, I guess it depends on the eye of the beholder as to, you know, is if it's smaller or not. I am not sure I have an opinion on that.
- Q. Okay. Is it your understanding that Evergy's current Clean Charge Network is the largest in the country?
- A. It was at one time the largest in the nation. It is infinitely, like, the largest in the state. There's probably only a handful of states that have -- or metro areas that have more EV charging stations per capita. In fact, you know, we had a -- there was an electric vehicle docket -- a workshop docket where we filed comments was in Mr. Clizer's opening where we showed a report from Oxford University that effectively showed Kansas City as a case study of what not to do for electric vehicle adoption. I mean, the number on the X and Y axis was, you know, was an outlier. I mean, huge amounts of EV charging stations. Very, very, very, very, very, very little

1	adoption.	
2	Q.	Okay. Moving on, can you tell me what your
3	understanding of	the interest of ChargePoint is in this case or
4	what their intere	est in general are?
5	A.	ChargePoint's interest are for you know, to
6	make money for th	neir investors and, you know, for their
7	management.	
8	Q.	Do you believe that ChargePoint represents the
9	interests of any	Evergy customers?
10	A.	No.
11	Q.	Can you tell me what the interest of what Sierra
12	Club are in gener	cal?
13	A.	Macrolevel environmental interests.
14	Q.	Do you believe that Sierra Club represents the
15	interest of any E	Evergy customers?
16	A.	No customer class. There might be customers
17	that value enviro	onmental initiatives, but no.
18	Q.	Okay. Can you tell me what your understanding
19	of the interest o	of the National Resources Defense Council are in
20	general?	
21	A.	Similar to Sierra Club.
22	Q.	Do you believe that NRDC represents the
23	interests of any	Evergy customers as a class?
24	A.	No.
25	Q.	Can you tell me your understanding of the

Τ	interests of Renew Missouri?			
2	A. Renew Missouri is a non-for-profit that support	S		
3	renewables in the state of Missouri.			
4	Q. Do you believe Renew Missouri represents the			
5	interests of any Evergy customers?			
6	A. Again, there might be customers that support			
7	renewable, you know, projects, but as a customer class, no.			
8	Q. Tell me your understanding of the parties in			
9	this case who does actually represent the interests of Evergy			
10	customers?			
11	A. The Office of Public Counsel, MECG, Missouri			
12	Energy Consumer Group, and to the extent that they have, you			
13	know, taken a neutral stance, the Missouri Public Service			
14	Commission staff.			
15	Q. And what is the position of all of those partie	S		
16	that represent customer interests in this case?			
17	A. To reject this proposal.			
18	Q. Moving on, were you listening on Tuesday when			
19	Mr. Caisley testified?			
20	A. I was.			
21	Q. I believe Staff has already covered that			
22	question, so we will skip that. Do you have an opinion as to			
23	whether Evergy's Clean Charge Network has worked?			
24	A. It has not worked. That is my opinion. And we			
25	should learn from it. It I reference to Oxford Study, but			

this is, in my opinion, a case study of what not to do. And the answer off of that pilot effectively -- we've already done a pilot. The numbers haven't borne out. The answer is don't do the same thing, which is exactly what this proposal is putting forward. It's explore and look at the other options. You know, again without going into settlement discussion, you know both the Empire case and to a certain extent the Ameren case provide better blueprints as to moving forward. Honestly, the real answer to this is to sit and wait. We will know whether the federal government is going to be giving out money here by the end of the year. We'll at least have a better idea. But there's no compelling argument to fast-forward and rubberstamp this thing moving forward.

- Q. When you say that the current Clean Charge
  Network hasn't worked, would you agree that that opinion is
  supported by the fact that these current chargers are not being
  used?
- A. Yeah. I mean, again Mr. Woodsmall, you know, one of the points that I would like to emphasize, when I'm looking at this from a consumer advocate standpoint is the concept of opportunity cost. You know, we can solve a lot of problems, but we cannot solve every problem. We've got to be mindful of the dollar amounts we do have and how we spend it. Throwing money at something that's already shown not to work, is not a prudent use of dollars. It sure as heck is difficult to

justify when those same customers who are going to be asked to bear those costs, have the highest arrearage amounts in the state. We're talking, you know, categorically larger than what we're seeing on the Ameren side. It just seems inequitable and regressive to go ahead and give out \$500 rebates to car -- to again, to people that already EV cars.

2.5

In light of the Storm Yuri costs that are coming down, the plant \$9 billion of capital investment, yeah, for all those reasons, we've got to be mindful of how we use captive customers dollars or else you're going -- or people are going to suffer at the end of the day. We get enough of those phone calls, you know. In our office almost every other day I'm getting at least a phone call from a senior that's on fixed income that cannot make bills. I'm sorry. Go ahead.

- Q. And another factor that supports your opinion that the Clean Charge Network hasn't worked is what you referred to earlier is that it's not actually promoting adoption even compared to St. Louis; is that correct?
  - A. That is correct.
- Q. You mentioned the \$500 rebate that would be available to people that already own electric vehicles in the service area. Let's try to put that in perspective. I believe in your errata sheet that you mentioned that there are currently 1,412 electric vehicles in the Evergy service area; is that correct?

1	Α.	That's correct.
2	Q.	And each of these vehicles would be eligible for
3	a \$500 rebate; i	s that your understanding?
4	A.	That's correct.
5	Q.	If we just simply take the 1,412 electric
6	vehicles and mul	tiply by 500, what we see is that calculation
7	\$706,000. Would	you accept that?
8	A.	I would.
9	Q.	And so that is \$706,000 going to customers that
10	are already using	g electric vehicles; is that correct?
11	A.	That's correct.
12	Q.	Did you have the opportunity to read the NRDC
13	witness's Max Ba	umhefner's testimony?
14	A.	I did.
15	Q.	Would you go to his testimony and read Page 3,
16	Lines 20 through	23 and his Page 4, Line 1?
17	A.	One second please. Page 3, Lines what again?
18	Q.	Page 3, Lines 20 through 23?
19	A.	As researchers from Idaho National Laboratory
20	note, the availa	oility of public infrastructure provides
21	consumer confide	nce against range anxiety with a perceived fear
22	by battery elect:	ric vehicle drivers by becoming stranded once
23	the battery is de	epleted. However, this availability means that
24	infrastructure m	ust naturally proceed from the adoption of PEVs.
25	Q.	Are you familiar with that study?

1	A. Yes, I am.
2	Q. Do you agree that this statement accurately
3	characterizes the Idaho study?
4	A. I had a similar question from Staff Counsel
5	Mers. No. It didn't the conclusion of that study you
6	know, again I'll repeat it, that the answer is clear.
7	Despite installations of extensive public charging
8	infrastructure in most of the project areas, the vast majority
9	of charging is done at home or work. That's 85 percent of the
LO	charging is being done at home. It's the equivalent if you had
11	a gas station in your garage at home, you would use it.
L2	JUDGE GRAHAM: Counsel counsel, this is Judge
L3	Graham.
L4	MR. WOODSMALL: Yes, sir.
L5	JUDGE GRAHAM: Answer the questions. Counsel,
L6	would you repeat your question so the witness can answer your
L7	question. Let's get back to examination here.
L8	BY MR. WOODSMALL:
L9	Q. Okay. Do you agree that the statement
20	accurately characterizes the Idaho study. I believe that's yes
21	or no?
22	A. No.
23	Q. And can you tell me why you don't believe that
24	that statement accurately characterizes the Idaho study?
25	A. As I read that in Mr. Baumhefner's statement

1 it's implying that more EV charging stations are necessary. The 2 study says, you know, nevertheless and I, quote, the projects demonstrated that ubiquitous charging network is not 3 needed to support PEV driving. 4 5 Okay. We're getting really close. I only have 6 four or five more questions. Could you go to the testimony on 7 Page 4. Are you familiar with information provided on Lines 7 8 through 15? 9 Α. Yes. 10 Are you familiar with that National Academy of 0. 11 Science report? 12 Α. I am. 13 Do you agree that this statement accurately 0. 14 characterizes the National Academy of Science's study? 15 I would not. I mean this is what -- the Α. 16 National Academy of Science's study --17 O. Let me stop you there. 18 JUDGE GRAHAM: Again --19 BY MR. WOODSMALL: 20 O. You're answer was no, it doesn't? I'm sorry? 21 Α. No. 22 And could you tell me why that this statement 0. 23 doesn't accurately characterize the National Academy of Science 24 study? 2.5 The recommendation by the National Academy of Α.

- Science was for the federal government to cease funding of ubiquitous charging networks moving forward. And again, that's testimony that I filed in my direct case in the Ameren docket because they couldn't find a correlation between -- a strong correlation between EV charging stations and EV adoption, which again, is right in line with the Clean Charge Network pilot effectively that we saw already to date.
- Q. You recommended that the Commission reject the commercial rebate program, but gave a secondary recommendation that if they approve it, they should put in an 80/20 participant/nonparticipant split to minimize free riders. Is that an accurate understanding of your recommendation there?
  - A. Yes.

- Q. Can you tell me what a free rider is?
- A. A free rider, you know, as we typically use the term on the regulatory side is a customer that would do that action regardless of the rebate that is being offered. We see it a lot in MEEIA programs. We tried to design programs to minimize free riders because that's, again, just giving out rebates to people that would already do this stuff. The 80/20 is there, which is in line with MEEIA and with other programs that I have seen, you know, to minimize the impact. Let's just accept the fact that there's probably going to be some people that would take advantage of this rebate regardless. Well, to minimize that, the 80/20 still shows they've got some skin in

the game. I would highly, highly recommend that for the Commission if they are going to move forward with a rebate program. And I don't think they should because, again, that rebate program is just going to cannibalize their existing CCN network. But if they do -- let's not throw this money at customers that are already going to do this anyway. I mean, that logic is almost is as bad is as giving a \$500 rebate to customers that already have EV charging -- or EV cars.

- Q. Do you know what a stranded investment is?
- A. I do.

- Q. Can you tell me what a stranded investment is?
- A. Yeah. So a stranded investment is a -- it can mean a lot of things in a lot of different context, but it is effectively an investment that is no longer earning its return or covering its cost. It's being, you know, retired prematurely. We've used the term stranded investment a lot in terms of, you know, different generation plants or, you know, obsolete technology. That's the biggest concern is -- and this is why command control models fail routinely when compared to, you know, your market versions is that we're throwing money forward at technology that will be obsolete in a few years.

Those slow charging stations right now that are littered throughout the Kansas City -- the Evergy service territory are just that. They're going to be obsolete, if they are not already. Because they're not covering their cost and

1	the technology is moving forward at a rapid rate.
2	Q. Final question: Are you can familiar with the
3	developer rebate program?
4	A. I am.
5	Q. I believe on Tuesday, Mr. Caisley said that the
6	developer rebates could help push the market for all home
7	developers to using 240-volt outlets in the home. Does this
8	program result in a free rider issue as well?
9	A. Oh my gosh, yes. We absolutely have developers
10	and this is a problem that we face on the MEEIA side. You
11	have, you know
12	JUDGE GRAHAM: Counsel, Judge Graham speaking.
13	I think the question required a yes or no answer.
14	MR. WOODSMALL: Okay. I will follow up.
15	BY MR. WOODSMALL:
16	Q. Can you tell me how the developer rebate program
17	results in a free rider issue?
18	A. I mean, in short you would have a number of
19	developers that would be or several developers that would
20	become aware of such a program that would already have been
21	putting in those plugs. Right now as it is designed, there's
22	nothing preventing those developers from taking advantage. It's
23	just free money. Again, it's just free money that we're
24	throwing out there.
25	Q. How would you correct the developer rebate

1	program to avoid the concern with free ridership?
2	A. I would remove the developer program. There's
3	you know, I would encourage Evergy to speak with their local
4	building codes and standards boards and try to move that on a
5	municipal level if that is their goal. It shouldn't be
6	subsidized through captive ratepayers.
7	MR. WOODSMALL: I have no further questions.
8	Thank you, sir.
9	JUDGE GRAHAM: Sierra Club or NRDC have any
10	questions?
11	MR. HALSO: Yes, Judge. This is Joe Halso for
12	Sierra Club and NRDC. Just a few questions.
13	JUDGE GRAHAM: You may proceed.
14	MR. HALSO: Thank you, Your honor.
15	CROSS-EXAMINATION BY MR. HALSO:
16	Q. Good morning, Dr. Marke.
17	A. Good morning, Mr. Halso.
18	Q. In your colloquy with Ms. Mers and Mr. Woodsmall
19	you referred to the study issued by researchers at Idaho
20	National Labs that's quoted on Pages 3 to 4 and cited in
21	Footnote 3 of the testimony of Sierra Club/NRDC witness
22	Mr. Baumhefner; is that right?
23	A. That's correct.
24	Q. Okay. For the record, I'm going to note this
25	study is by Jim Frankfurt, et al. It's entitled, Considerations

for Corridor and Community DC Fast Charging Complex System 1 2 Design. You noted that you're very familiar with this study; is 3 that right? Α. Yes. 5 0. And you read from your own testimony in Ameren's 6 ET-2016-0246, testimony that was quoted again in ET-2018-0132, 7 that you represented quotes from that study; is that right? 8 Α. That is what I represented. Yes. 9 0. Okay. And your testimony is citing the study in question was first filed in 2016; is that right? 10 11 Α. Yes. 12 Okay. Are you aware that the study cited in 0. 13 Footnote 3 of Mr. Baumhefner's testimony in this case for the 14 proposition of infrastructure must naturally proceed adoption 15 was issued in 2017? 16 I said the Idaho National Labs was 2016. Let me Α. 17 look at my testimony to see what you're -- just to be clear, I'm 18 looking for the National Academy of Science? 19 I'm asking you about the Idaho National Lab 0. 20 research quoted in Mr. Baumhefner's testimony that you 21 represented you were very familiar with and in fact, quoted it 22 it your previous testimony before this commission. 23 Α. Okay. And the question? 24 Are you -- let me begin again. Your testimony 0. 25 citing this study that we are talking about was first filed in

2016; is that right? 1 2 Α. Yes. 3 0. Okay. Are you aware that the study cited in 4 Footnote 3 of Mr. Baumhefner's testimony in this case was issued 5 in 2017? Which footnote is that? 6 Α. 7 This is Footnote 3 on Page 4. For the record, Ο. 8 this as Exhibit 700, the surrebuttal of Max Baumhefner. 9 Α. Mr. Halso, I don't think that is the same study. The text preceding that says it is the National Academy of 10 11 Science, not the Idaho study. 12 I want to make sure we're on the same page here. 13 Dr. Marke, you are looking at page -- I'm going to direct you to look at Page 3, beginning Line 20 of Mr. BaumHefner's testimony. 14 15 You just quoted this language aloud in your colloguy with Mr. Woodsmall? 16 17 Α. I was on the wrong page. You're right. 18 0. Thank you. If you look at Footnote 3, can you 19 just confirm for me at least what's represented in the testimony 20 here is that this study was issued March 2017; is that right? 21 I am not trying to be difficult here, Mr. Halso. Α. 22 I am on Page 3. There are two footnotes there, not a third 23 footnote. 24 I'm asking you to look at Page 4, Footnote 3. 0. 2.5 Α. Okay. Page 4. Okay. It says March 2017.

1	Q. Okay. And you have your own testimony from
2	Docket ET-2016-0246 in front of you; is that correct?
3	A. I do.
4	Q. Okay. And there you quote research from Idaho
5	National Labs in Footnote 11. And you note there that the date
6	of that study is 2016; is that correct?
7	A. Yes.
8	Q. Okay. Is it likely then, Dr. Marke, the study
9	you cite and the study that Mr. Baumhefner cites are the same?
LO	A. No. It looks like they are different studies.
11	Q. Okay. I just want to clarify that. I
L2	appreciate that. Do you maintain your testimony that you are
L3	very familiar with the study cited by Mr. Baumhefner?
L4	A. I am I would like to correct that. The
L5	earlier, I guess, five-month earlier study came to the
L6	conclusion that a ubiquitous charging network is not needed to
L7	support the EV driving.
L8	Q. Okay. I want to ask you for a moment about that
L9	study. I'll represent to you it's actually from September 2015.
20	It's entitle, Plug-in Electric Vehicle Infrastructure Analysis,
21	as you note in your testimony from ET-2016-0246. You read your
22	testimony there quoting that the ubiquitous charging network is
23	not needed to support EV driving and just stated that again.
24	Correct?
25	A. Uh-huh.

1	Q.	Okay. Would you please read the next sentence
2	in that paragrap	oh of your quote from that study?
3	Α.	Instead, charging infrastructure should be
4	focused at home,	workplaces, and in public hotspots where demand
5	for AC Level 2,	EVSE or DCFC stations is high.
6	Q.	Okay. And consistent with Judge Graham's
7	request here, wh	at does AC stand for in that quote?
8	Α.	Alternative current, alternate current.
9	Q.	Thank you. And EVSE?
10	Α.	Electric vehicle I don't know.
11	Q.	Okay.
12	Α.	SE.
13	Q.	DCFC, Dr. Marke?
14	Α.	Direct current fast charging.
15	Q.	Thank you. Okay. Would Evergy's proposed
16	commercial EV re	bate support charging at multi-unit dwellings if
17	it was approved	by the Commission?
18	Α.	It would.
19	Q.	And those are homes where people live. Correct?
20	Α.	No. The commercial rebate program?
21	Q.	I'm asking multi-unit dwellings, are those homes
22	where people liv	re?
23	Α.	Multifamily, could be homes. Yes.
24	Q.	Okay. And that same commercial rebate Evergy's
25	proposed would s	support charging at workplaces; is that correct?

1	Α.	Yes.
2	Q.	Okay. And it could support charging along
3	highway corrido	ers; is that correct?
4	Α.	That is what they proposed.
5	Q.	And just to your understanding of their filing,
6	issuance of the	se rebates to particular customers would be
7	driven by custo	mer's interest; is that right?
8	А.	Yes.
9	Q.	Okay. And the Company has proposed a
LO	residential reb	ate intended to support home charging; is that
11	correct?	
L2	Α.	Yes.
L3	Q.	Okay. Are you aware that in the September 2015
L4	study that you	quote in the testimony we are looking at now from
L5	ET-2016-0246 it	states that the primary question about charging
L6	infrastructure	placement was would PEV divers recharge around
L7	town at the nea	rest charging station following the
L8		MR. CLIZER: Your Honor?
L9		MR. HALSO: followed with the gas-powered
20	cars they grew	up with or would they adopt
21		MR. CLIZER: Your Honor?
22		MR. HALSO: refueling paradigm, and charge at
23	a few places wh	ere they park their cars for the longest periods
24	of time. Are y	rou aware of that?
25		JUDGE GRAHAM: Okay.

```
MR. CLIZER: Clizer, from OPC. I'd like to
 1
 2
     register an objection; assumes facts not in evidence.
                      JUDGE GRAHAM: Assumes facts not in evidence?
 3
 4
     think I --
                      MR. HALSO: May I respond?
 5
 6
                      JUDGE GRAHAM: Just a minute. Let's not talk
 7
     over each other. Wasn't the question, are you aware? Wasn't
 8
     that the beginning of the questions?
 9
                      MR. HALSO: That's correct, Your Honor.
10
                      MR. CLIZER: And he's assuming the statements
11
    being stated are in fact in the -- I apologize, I jumped in too
12
     fast.
13
                      JUDGE GRAHAM: So the question is, is he aware
14
     of certain facts or of a statement? Let's just get down and
15
    parse this. What is he being asked is he aware of?
16
                      MR. HALSO: Your Honor, this is Joe Halso for
17
     the club and NRDC.
                          I'm asking if Dr. Marke is aware of a
18
    particular quote in this study from which he cites and has now
19
     referred to several times in cross-examination from other
20
     counsel and has referred to in the testimony of my own witness.
21
                      JUDGE GRAHAM: What is your response to that
    Mr. Clizer?
22
23
                      MR. CLIZER: The existence of that quote is a
24
     stat-- is a fact and the study -- the report itself whatever you
    referring to, is not evidence.
25
```

```
1
                      JUDGE GRAHAM: Counsel's response is that this
 2
     witness has referred to that study in his testimony. Is that
 3
    not right?
                      MR. HALSO: That is correct, Your Honor.
     this is Joe Halso. I might just add that the witness stated he
 5
 6
     is very familiar with this study, relies upon it for a
     conclusion in his testimony today and I want to ask about his
 7
 8
     understanding of it.
 9
                      JUDGE GRAHAM: Yeah. I'm going to overrule the
10
     objection. You may proceed.
11
                      MR. HALSO: Thank you, Your Honor.
12
     BY MR. HALSO:
13
                      Dr. Marke, I'll restate the question. Are you
              0.
     aware that in the September 2015 Idaho National Lab study that
14
15
     you cited in prior testimony before this commission it states,
16
     the primary question about charging infrastructure placement was
17
     would PEV drivers, plug-in electric vehicle drivers, recharge
18
     around town, at the nearest charging station following the
19
    pattern they followed with the gas-powered cars they grew up
20
     with or would they adopt a new refueling paradigm and charge at
     the few places where they park their cars for the longest
21
22
    periods of time?
23
              Α.
                      Am I aware that that statement is in the Idaho
24
    National Lab study?
2.5
              Q.
                      That's right?
```

I can't speak verbatim as to what that study --1 Α. 2 is it in testimony that I filed? It's in the study you refer to in your 3 Q. 4 testimony. Are you aware --5 Α. I know I'm --6 Ο. -- that is the question. 7 It's -- I mean, these are big studies. Α. 8 Q. Thank you, Dr. Marke. I'll represent to you 9 that it does. And so when the study says a ubiquitous charging 10 network is not necessary as you quote, it is using that phrase 11 to refer to the gasoline refueling experience; isn't that right? 12 Α. Yes. 13 Okay. Did you review the intervention papers of 0. the Sierra Club in this case? 14 15 Α. The workpapers? 16 The intervention papers, our petition for leave 0. 17 to intervene? 18 I did not. Α. 19 Okay. Are you aware that Sierra Club has more 0. 20 than 12,700 members in the state of Missouri many of whom are 21 Evergy ratepayers? 22 I -- if you say so. Α. 23 Q. Are you aware that Sierra Club represents the interests of its members? 24 25 Α. If you say so.

1		Q.	Is that a no, Dr. Marke?
2		A.	That Sierra Club represents its interests of its
3	members?		
4		Q.	Are you aware that Sierra Club represents the
5	interests	s of its	members?
6		A.	I think that's Sierra Club's intent.
7		Q.	Okay. Just a few more questions. You had a
8	colloquy	with Mr	. Woodsmall about the National Academy of
9	Science's	s study	that is cited on Page 14 of the surrebuttal
LO	testimony	y Mr. Ba	umhefner. Do you recall that?
11		Α.	I do.
L2		Q.	Okay. Can I direct to Page 14, beginning at
L3	Line 4.	Just le	t me know when you are there.
L4		Α.	I inadvertently logged out here. One second.
L5		Q.	No problem.
L6		Α.	Page number again?
L7		Q.	It's Page 14 beginning at Line 4?
L8		Α.	I'm there.
L9		Q.	Okay. You had a colloquy with Mr. Woodsmall in
20	which you	ı stated	you didn't believe that Mr. Baumhefner's
21	reference	e to the	National Academy of Science's study accurately
22	characte	rized th	e study. Do you recall that?
23		Α.	Yes.
24		Q.	Okay. Beginning here at Line 4 Mr. Baumhefner
25	quotes fi	com that	study, home charging is a virtual necessity

from mainstream plug-in electric vehicle buyers. Do you dispute 1 2 that that is an accurate quote from that National Academy of Science's study? 3 I don't dispute that. Α. 5 MR. HALSO: Thank you. No further questions, 6 Your Honor. Thank you, Dr. Marke. I appreciate it. 7 JUDGE GRAHAM: All right. We're going to take a 8 break right there. I am pretty sure we're going to have more 9 questions for this witness and it's just about 12:00 straight up. We'll take a break and we will resume at one o'clock. 10 11 (OFF THE RECORD.) 12 JUDGE GRAHAM: I've got one o'clock. Judge 13 Graham speaking. I believe we were ready for Renew Missouri's 14 cross-examination of Geoff Marke, Dr. Marke. Is Dr. Marke ready 15 to go? 16 THE WITNESS: Yes, Your Honor. This is Geoff Marke with Missouri Office of Public. 17 18 JUDGE GRAHAM: Does Renew Missouri have any 19 questions of this the witness? Is Renew Missouri back online? 20 Okay. I'm going through my notes. All right. Is ChargePoint 21 ready to go? 22 MR. DUNBAR: Your Honor, we have no questions. 23 Thank you. 24 JUDGE GRAHAM: All right. Does Evergy have 2.5 questions for Dr. Marke?

1	MR. FISCHER: Yes, Judge. This is Jim Fischer.
2	I do have a few questions for Dr. Marke.
3	JUDGE GRAHAM: You may proceed.
4	CROSS-EXAMINATION BY MR. FISCHER:
5	Q. Good afternoon, Dr. Marke. How are you today?
6	A. Living the dream, Mr. Fischer.
7	Q. Very good. I'm very glad somebody is. I would
8	like to begin by talking to you about one of the I guess, a
9	all fundamental issue and that is the number of EVs in Kansas
LO	City and Missouri and try to clarify that, if we could. I
L1	wasn't sure whether based on your answers whether you were
L2	surprised when you heard the numbers that Evergy suggested were
L3	a number of EVs in Kansas City based on your testimony?
L4	A. Yes.
L5	Q. You were surprised by those numbers?
L6	A. Yes.
L7	Q. I would ask you do you happen to have the
L8	Evergy transportation electrification portfolio filing report,
L9	which is what we called the Evergy report throughout this?
20	A. I can get that.
21	Q. Okay. Would you do that?
22	A. Just to be clear. Do want me to get the one
23	that you guys filed on 02/24 or the updated one?
24	Q. I'd say the updated one. The data I'm going to
25	ask you about is consistent in both, but why don't you go to the

1	updated one, the Ma	ay 7 filing.
2	A. Ok	xay. I'm there.
3	Q. Ok	kay. I'm going to ask you first to just turn
4	to the second page	of that. It's a blue graphic entitled,
5	Accelerating transp	portation electrification in Missouri?
6	A. Ye	es.
7	Q. I	used this in the opening statement as well.
8	Do you see there in	n the middle of the page in a green block
9	where Evergy sugges	sted that the number of EV estimated in the
10	territory for Septe	ember 2020 for the Missouri Metro was 2,041,
11	2,041 for Missouri	Metro and for Missouri West it was estimated
12	to be 969 vehicles?	
13	A. Ar	nd the question is do I see that?
14	Q. Ye	es?
15	A. Ye	es.
16	Q. Do	you remember, had you reviewed that before
17	your testimony?	
18	A. Ye	es.
19	Q. Sc	you were aware then that Evergy was
20	estimating 3010 EV	vehicles in the Kansas City area as of
21	September 2020. Co	orrect?
22	A. I	think the operative word is estimated, but
23	yes.	
24	Q. Ok	cay. And if you turn to while we're open on
25	that document, let'	s turn to Section 2.2, which is on Page 13 of

```
the testimony -- or the report?
 1
 2
              Α.
                      Okay.
                      Well, before we go there, let me ask you: If I
 3
              0.
     understood your testimony about your errata sheet, you were
 4
     estimating that there are 1,412 electric vehicles in the Kansas
 5
 6
     City area; is that correct?
 7
                      I was not estimating. That is the number of
              Α.
 8
     registered electric vehicles according to the state of Missouri.
 9
              0.
                      Okay. And Evergy was suggesting that the
10
     estimate was 3,010. You are saying the registered was 1,412; is
11
     that right?
12
                      Yes.
              Α.
13
                      Okay. Let's go to your rebuttal testimony, Page
              0.
14
     9?
15
              Α.
                      Okay.
16
                      There as I understand your chart, it shows that
              Ο.
17
     there were 1,291 battery electric vehicles and 103 plug-in
18
     vehicles for a total of 1,394 and that is that number you --
19
     that's the number that you corrected with your errata sheet; is
20
     that right?
21
                      Yes, it is.
              Α.
22
                      And so the total now according to what your
              Q.
23
     information is, is the total for battery and plug-ins is 1,412;
     is that correct?
24
2.5
              Α.
                      That's correct.
```

1	Q. And if we compare the number of plug-ins, the
2	107 plug-ins, to the total of 1,412, would you agree that that
3	would suggest that there were 7.5 percent plug-ins compared to
4	the whole EV market?
5	A. Yes.
6	Q. Okay. I would like for you now to go back to
7	the Evergy report and turn to Page 13, Section 2.2?
8	A. Okay. I think I am already there. Yes.
9	Q. Okay. There in the paragraph of 2.2, Evergy
10	territory EV adoption, there's a statement the number of
11	light-duty EVs operating in the Missouri Metro service territory
12	was estimated to be 2,040 as of September 2020 with
13	approximately 55 percent being BEVs. And what do you understand
14	that term to mean?
15	A. Battery electric vehicles.
16	Q. Okay. And 45 percent PHEVs. What do you
17	understand that term to be?
18	A. The plug-in.
19	Q. Okay. So is correct would you agree that
20	Evergy is suggesting that there are 55 percent battery operated
21	vehicles compared to 45 percent plug-in vehicles?
22	A. That's what your report says.
23	Q. And so that's another area where there's a
24	difference of opinion. Because your data shows there's only
25	seven and a half percent plug-ins where Evergy is suggesting

that there are 45 percent plug-ins. Correct? 1 2 Α. That is what your report says. 3 Q. Okay. Let's go to your rebuttal testimony at 4 Page 9. 5 Α. Okay. 6 Ο. And let's look at Footnote Number 14. There you 7 said the data supplied by the Missouri Department of Revenue. 8 quess, that is the source. And then said I will attempt to 9 update these numbers for surrebuttal testimony if necessary. 10 And that is what you've done now. You've updated those numbers. 11 Correct? 12 Correct. Α. 13 And then you say in the next sentence, These 0. numbers are supported by EV registration metrics reported by the 14 15 US Department of Energy for the end of calendar year 2020, which 16 reported Missouri total EV registrations at 6,740; is that 17 right? 18 Α. That's correct. 19 Now, if I understood your testimony on Page 10 0. 20 in your rebuttal at Lines 3 and 4, you were talking about the 21 St. Louis County, City and St. Charles number. And you, I 22 believe, said the number was 3,681 for battery, plus plug-ins; 23 is that right? 24 Yes. Α. 25 Q. And the number for Kansas City in the errata

```
sheet was a total of 1,412 EVs total for Kansas City?
 1
 2
              Α.
                      Yes.
                      So if I math was correct, if I added 3,681 in
 3
              0.
 4
     St. Louis and the 1,412 in Kansas City, your numbers would
 5
     suggest there were a little over 4,093 EV vehicles -- EV
 6
     vehicles in Missouri; is that right?
 7
                      Could you repeat that again, sir?
              Α.
 8
              Q.
                      Yes, sir. The number for St. Louis was 3,681?
 9
                      Right.
              Α.
10
                      And the number for Kansas City according to your
              Q.
11
     data is 1,412.
12
              Α.
                      Uh-huh.
13
                      And whenever I added those together the number
              0.
14
     came to 4,093. Does that sound right?
15
              Α.
                      I'm going to do it here. I am adding 3,681,
16
     plus 1,412?
17
              0.
                      Yes.
18
              Α.
                      I get 5,093.
19
                      Oh, 5093. My calculator didn't work right.
              0.
20
            5,093.
                    So that would be your number, your estimate for
21
     the EVs in Kansas City and St. Louis; is that right?
22
              Α.
                      Yeah. And to be clear, when I say Kansas City I
23
     mean Evergy Metro, Evergy West, all of the counties that they
24
     have a footprint in. And then St. Louis County, St. Louis City,
25
     and St. Charles County.
```

1	Q. Okay. Dr. Marke, whenever your referred in your
2	Footnote 14, you go on to say, see also a website. Is that the
3	source for the data that you had where you came up with 6,740?
4	A. Yes.
5	Q. Do you believe that that 6,740 includes plug-in
6	hybrids?
7	A. Off of the top of my head, I don't know. I
8	don't know if I can answer that. It would be in my workpapers.
9	Q. Are you able to are you able to click on that
10	website in your report. Whenever I did it, it took me right to
11	the table?
12	A. I am looking at a hard copy, so I am going to
13	see if I can type it. Just bear with me, sir. All right. I'm
14	on it and I'm going to download the Excel file. Or do I need to
15	do that?
16	Q. I think you may. I want to read to you a
17	sentence out of it, and if you could confirm that that was in
18	the report?
19	A. Okay.
20	Q. The sentence I would like to read, it says:
21	This chart and it's referring to the chart in the report
22	this chart shows the vehicle registration counts of all electric
23	vehicles, EVs, by state as of December 31st, 2020?
24	A. Right.
25	Q. Would that suggest to you that the numbers that

1	were included there were all electric vehicles, not hybrids?
2	A. This is all electric vehicles, yes.
3	Q. Okay. Let's assume that your Footnote 14 data
4	that you have here is correct and that there were 6,740 all
5	electric vehicles in Missouri at the end of the calendar year
6	2020. Now, can you make that assumption for me?
7	A. Okay. I've made that.
8	Q. If we also assume that the rate of all electric
9	vehicles to plug-in hybrids is roughly 50/50 just to make the
10	math easier, then wouldn't it be correct that if there were
11	676 6,740 all electric vehicles in Missouri at the end of
12	2020, then there would be another 6,700 or so plug-ins for a
13	total 13,500 all EVs and hybrids together?
14	MR. CLIZER: I'm going to object to the
15	relevance of this question given that there's no actual proof
16	that that's the actual ratio between plug-in hybrid electric
17	vehicles and actual electric vehicles.
18	JUDGE GRAHAM: That objection will be overruled.
19	BY MR. FISCHER:
20	Q. Would that be correct, Dr. Marke, that there
21	would be if we are under those assumptions there'd be 6,740
22	all electric vehicles and then another roughly 6,700 hybrid
23	plug-in vehicles?
24	A. I don't know. I'm going to ask you to repeat
25	it. I'm sorry.

I'm sorry. I wasn't very clear. I'm asking you 1 0. 2 if we also assume that the ratio of all electric vehicles to plug-in vehicles is roughly 50/50, just to make the math easier, 3 it was really -- Evergy suggests it is 55/45, but let's just 4 5 assume 50/50 for purposes of this question. Then there would be 6 6,740 all electric vehicles in Missouri at the end of 2020, and 7 another 6,700 plug-in hybrid vehicles for a total of about 13,500 all electric and hybrid together. Correct? 8 9 Α. Okay. 10 Are you going to make that assumption? And that 0. 11 would be considerably more than your 4,093 registered all 12 electric and hybrid vehicles. Correct? I feel like I am following the mental gymnastics 13 Α. that you are asking me to perform here. I guess I've gotten 14 15 some caveats with it, but if to --16 But that number is correct? 0. 17 Α. I don't know if I can answer that. I apologize. 18 Try it again, Mr. Fischer. What you're asking me --19 Let me just go slow. 0. 20 Α. Yeah. Okay. 21 Your data on there on Footnote 14 suggests that 0. 22 there were 6,740 all electric vehicles at the end of calendar 23 year 2020? 24 Right. Α. 25 Q. And I'm suggesting that if that's -- we will

assume that is true and those are all electric vehicles. I'm 1 2 asking you to assume that the ratio of all electric vehicles to plug-in hybrids is roughly 50/50? 3 Α. Okay. 5 0. And if we assume that and we take the data of 6 6,700 Missouri all electric vehicles --7 Α. I got you. 8 Q. -- in the calendar year, then there would be 9 another 6,740, I guess, at the 50/50 ratio. And that would 10 total about 13,500 all electric vehicles, plus hybrids -- plus 11 all plug-in hybrids. Right? 12 If I assume that the ratios are 50/50. Yes. Α. 13 Right. And if we assume that, then if we 0. 14 compare that number to your 4,093 it's -- or 5,093 -- well, it 15 is more than twice as many. Right? 16 Α. Yes. If -- with those assumptions, that would 17 be twice as many. 18 So there's a fundamental difference about how 0. 19 many plug-in hybrids are out there from your data versus the 20 Evergy data. Right? 21 And I would take -- yes. There is a fundamental 22 difference between the position the Company has made and the 23 empirical data that is on the record. 24 That's good. Just one last question, I Ο. Okay. 25 guess. You don't consider yourself to be an expert in the

1	forecasting sales of electric vehicles, do you?
2	A. I do not.
3	Q. Okay.
4	MR. FISCHER: Thank you, sir. That's all the
5	questions I have. I appreciate your patience.
6	THE WITNESS: Thank you.
7	JUDGE GRAHAM: Thank you very much. Are there
8	any questions from the commissioners? Okay. I've got a few.
9	QUESTIONS BY JUDGE GRAHAM:
10	Q. Dr. Marke, if the Commission were and this is
11	hypothetical, if the Commission does support the residential
12	electrical vehicle outlet, then why doesn't the Office of Public
13	Counsel support ChargePoint's recommended modifications for the
14	program especially the suggestion to hardwire the home charges
15	and not require the installation of NEMA outlets? Do you have a
16	response for that? The hypothetical is that the Commission does
17	support the Residential EV Outlet Program. So why in that
18	example, doesn't OPC support ChargePoint's recommended
19	modifications as I've described? Do you have any opinion or
20	testimony on that score?
21	A. I'm going to attempt to answer, Your Honor.
22	Q. Go ahead.
23	A. Okay. So we did not support any of
24	ChargePoint's recommendations and there were four
25	recommendations. I can speak to each one of those

recommendations if you would like or just narrow it specifically to the NEMA.

2.5

- Q. Yeah. Narrow it to the NEMA, please?
- A. Okay. I don't think we have a strong opinion.

  This is not a good program period. It is the equivalent of saying, you know, if we want to, you know, give money away would you rather burn it or throw it in the garbage can. I guess we are indifferent either way.
  - Q. In the event that the Commission does support the Residential Electrical Vehicle Outlet Program, OPC just got -- does not have a strong opinion on ChargePoint's suggestion concerning hardwiring home chargers and not requiring the installation of NEMA outlets. OPC just does not have a strong opinion on that in the event that the Commission does support the Residential EV Outlet Program. Am I saying your testimony correctly?
  - A. Yes, sir. I would agree, we do not have a strong opinion on that specific issue.
  - Q. All right. Given the Office of Public Counsel's concerns about freeloaders, which you have testified to on your -- well, during cross-examination and as well as in your prefile, would a requirement for the installation of the charger instead of a NEMA outlet reduce the potential for NEMA outlets being installed for other reasons besides the charger. Do you have testimony on that?

1	A. Let me see if I can understand. I'm gonna walk				
2	back what I heard, Your Honor.				
3	Q. Go ahead. I'll make sure you understood.				
4	A. What I heard was if free ridership would be				
5	reduced if instead of rebating the NEMA outlet, we just rebated				
6	an EV charging station or charger. Sorry.				
7	Q. Yes. You've understood the question.				
8	A. Okay. Free ridership would not be reduced.				
9	Q. Do you want to explain?				
10	A. Because the fundamental premise behind the				
11	program itself is flawed. These are cars these are				
12	they've already gotten electric vehicles.				
13	Q. All right.				
14	A. So this is a solution in search of a problem				
15	that doesn't exist.				
16	Q. Okay.				
17	A. We've got AMI technology that is being under				
18	utilized that we can utilize today to go ahead send proper price				
19	signals to accomplish the exact same feat without having to do a				
20	\$500 rebate or a NEMA outlet rebate. Either one of those				
21	both of those options are an efficient means to an end that				
22	already exists which is time of use rates.				
23	Q. All right. Now, OPC and Staff recommended				
24	participants should be required to sign up with the Company's				
25	existing whole house opt-in time of use rates. Should they be				

required to sign up for the opt-in TOU rates for a minimum 1 2 period? Six months? 12 months? 18 months? Do you have testimony on that score? 3 I've got an opinion. I don't think I had 5 testimony on it. What I would say is --6 0. Yes. Go ahead and express your opinion. 7 Multiple years, five preferably. This is a very Α. 8 generous rebate for something I believe that they would do 9 otherwise regardless. Again, and you know, in the upcoming rate 10 case, which I think is a better purview for addressing this and 11 looking at it holistically, the rates could be designed and 12 offered up for that. But putting them on a time of use rate, 13 depending on that differential, isn't going to offset the \$500 14 of socialized cost to nonparticipants. So there is a mismatch 15 in benefits and costs in that. 16 So to answer the question -- I don't think it is 17 good policy, but if you wanted to get good cost-effectiveness or 18 the most bang for your buck, they would be locked into that rate 19 for a long time. The problem with that is that raises other 20 problems. Right. 21 So I wouldn't make it optional, I'll tell you 22 that. That's for sure because if you didn't -- if it was 23 optional, they're not going to do it. And if they're not going

to do it, the chances of them putting more pressure on the

distribution system, the chances of them increasing emissions

24

25

1	from firing up gas plants or oil or diesel increases and those				
2	are costs that are going to flowed on to nonparticipants. It is				
3	a program that can do more harm than good. And any time that is				
4	a possibility for a nonessential service, it gives our office				
5	pause.				
6	Q. Are you familiar with the Kansas stipulation				
7	that's been discussed in earlier days of this hearing				
8	A. Yes.				
9	Q involving Evergy?				
LO	A. Yes, Your Honor.				
L1	Q. Thank you. I heard ya. In the Kansas				
L2	nonunanimous agreement, you mentioned earlier in this case I				
L3	think it has and will be coming into evidence or part of it				
L4	some of the parties to that stipulation agree to offering a				
L5	lower rebate to residential customers who do not sign up for the				
L6	TOU rates. What is your opinion about such a structure to				
L7	accommodate both customers for whom TOU rates worked in their				
L8	households versus those for whom they do not work. Do you have				
L9	an opinion on that?				
20	A. It is better than what the Company's current				
21	application is requesting.				
22	Q. That would be an improvement over the current				
23	application that's pending in Missouri?				
24	A. Yes, Your Honor.				
25	O. Okay. Are you familiar with Xcel Colorado's				

			_
pro	qr	am	?

- A. I am.
- Q. Generally speaking, do you have thoughts or observations about that program as it relates to or might inform what we do here in this case?
- A. I do. It's a great question because the Xcel program has been brought up a couple of times last week by multiple witnesses. Context is important. The Xcel program -- what preceded the Xcel program was a series of legislative acts in Colorado, not least of which was an executive mission to move towards an emission-free tailpipe vehicle adoption across the state of Colorado with particular emphasis on the city of Denver, which is where Xcel operates. Denver's got some particularly bad pollution issues because of its geography.

The state offered up -- I want to say a \$5,000 subsidy tax incentive for any electric vehicle buyer. Shortly after that went into law, COVID-19 hit and the pandemic wrecked a lot of uncertainty around basically state budgets. Xcel -- my understanding is that Xcel stepped up and with cooperation from the Colorado government agreed to take over that rebate program.

This in my opinion -- I will just point on that particular point real quick is categorically more expensive for customers because if it's coming through tax dollars and through, you know, the state budget, you're getting that money and that capital is being afforded to taxpayers at a much, much,

much lower rate. In Xcel's case, it was their weighted average cost of capital, plus they wanted a return on and of those expenses. So -- which is unprecedented and that got put into law.

From there the companies were required also by statute to go ahead and produce a Comprehensive Electric Vehicle Transportation Plan that was vetted by both elected officials and by a regulatory staff and stakeholders. So a much, much more deep dive product that went into that. That program was then offered up -- a version of the program was offered up in front of the Commission. My understanding is that the Company and environmental groups negotiated unbeknownst to the Commission staff at their public counsel and came to an agreement on a program that was ultimately rejected by their commission. But other facets were approved from their original application. So their amended stipulation or their stipulation was rejected, but certain aspects of their application were approved at a very high rate, mind you.

So the big key thing, you know, to look at -and we're in a unique position here in Missouri where we can now
sit back and look is it going to work? How are things going in
Colorado? You know, and Colorado is also under the same
economic stress as -- Xcel in particular jumps up because Xcel
exceeded -- had over \$1 billion in fuel costs associated with
Storm Yuri. So a combination of that immediate impact on rates

as well as, you know -- I guess, the large subsidies that are being approved and accruing to customers through their incentive rebate program.

We'll see if adoption takes place or if rate shock will trump it. But it is very -- categorically different than what we have in front of us here in Missouri and in this application.

- Q. Thanks. Do you have any opinions about Xcel's exploration of recruiting and enrolling a time of use group and a non-time of use group of customers to study the differences between them in their residential charging pilots. Any opinions on that?
- A. I would implore the Commission not to go down that route. We've got 14 studies on time of use rates for this utility that ratepayers have funded to date and more, I think, that are coming down in the next rate case. We've had six years worth of AMI investments that are effectively sitting idle because we don't have a time of use rate out there. There are -- other witnesses said this too, NRDC's witness, effectively said it better than I did, which an EV driver is an EV driver whether they are in Kansas City or Denver or someplace else. The great thing about all of these regulatory states is we can go ahead and instead of funding a million-dollar study and punting this for another year, two years, maybe three years before the Commission would have an opportunity to opine on

1 | something, we can just look to see what other states have done.

- Q. Okay. The International Code Committee, the ICC has identified, quote, that around 85 percent of the cost of refits for EV support or electrical vehicle support could be avoided had electrical vehicle capable infrastructure been included in garages during construction. The additional retrofit cost typically labor expenses, the demolition, trenching and boring, balancing the circuits or new panels and new permitting cost. Do you disagree with their analysis that it will be more economical to install infrastructure at the time of construction. Do you have an opinion on it?
- 12 A. I would agreement that.

2.5

- Q. You may have anticipated my last two questions. I don't know if they are the last two questions, but pretty close. Aside from anything we've already talked about here and you talked about, if the Commission were to approve Electrical Vehicle Pilot Program, what do you think would be useful data or metrics for the Commission and stakeholders to get from the pilot and what terms or requirements for the pilot would you suggest to help get the information?
- A. A number of witnesses pointed to the Ameren stipulation, you know, I would also -- we've got to anticipate an on-the-record in the near future about the Empire stipulation, which I think could open up some additional dialogue on that topic. You know, my opinion is we that already

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

have a pilot. It's already been done. We've already got the empirical data to draw a number of conclusions. If we're going to do a pilot, part two, and move forward with, you know, the same thing, the most important -- well, the three things that would jump out for me would be 1, EV registration, which has been a topic of controversy I think in this docket or last couple of days. Two -- and that's easily public available through the Department of Revenue. Two, actual charging use. We've got that information. You know, that's been provided in the Staff report. I would just be tacking it on again and looking at it. You know, to the extent that you're looking at empirical load shapes when these EVs are being charged, I would say that's very important, too. In the Ameren stipulation one of the parts of pilot-wide basis through a program called Watt Time. And the

that stipulation was to examine emission reduction controls on a pilot-wide basis through a program called Watt Time. And the idea behind that was really -- these programs are being espoused as, you know, pollution reduction, you know, options. How can we make sure that that is the case and is not going towards, you know, counteracting that. The AMR, you know, behind that was designed -- the emission reduction Watt Time was something that we looked at on a pilot basis that might be something to examine again here on the Evergy side.

That and -- you know, I guess the big thing -- the big concern would be the federal dollars. I mean, if I've

- got \$100 million coming into Missouri that was going to be putting charging stations on top of what we're already looking at, I could see a scenario where we might want to look at some different data to see if that is impacting, you know, the locations. So, I guess, on that note what I would say -- I apologize on thinking this out loud, would be the option for parties to come back and revisit the data that is being collected to add more information, I guess.
  - Q. Thank you. Last question -- again, you may have anticipated this one and provided an answer, but let's just put it a little different again. Again, you're familiar with the Kansas stipulation you've indicated. If the Commission approves any part of the rebate programs, would it be appropriate for the Commission to impose an evaluation measurement and verification, an EM&V requirement similar to the Kansas stipulation if you are aware, if you know?
  - A. I am aware and I would argue that it is not appropriate or a prudent use of ratepayer dollars. You will be disappointed in an EM&V study. There is nothing about the reporting data that we're collecting on the Ameren side wouldn't tell us already that we already don't know. Yeah. We don't need it.
  - Q. Thank you. I'm sorry I did not mean to step on you. Are you done with your answer?
    - A. I am, Your Honor.

1	JUDGE GRAHAM: Okay. Thank you. Now, that
2	concludes my questions. Is there any recross after the
3	questions that I've asked? We may have had a connection problem
4	with the Renew Missouri. Is there someone from Renew Missouri
5	that has questions for this witness?
6	MR. OPITZ: Judge, this is Tim Opitz with Renew
7	Missouri. I have no questions. Thank you.
8	JUDGE GRAHAM: Okay. Thank you. Thank you very
9	much. Well, in that event, does anybody else have any recross
10	for the witness following my questions? All right. Does
11	counsel for the Office of Public Counsel have any redirect for
12	Dr. Marke?
13	MR. CLIZER: I do, your honor.
14	JUDGE GRAHAM: You may proceed.
15	MR. CLIZER: Thank you.
16	REDIRECT EXAMINATION BY MR. CLIZER:
17	Q. Once again, for the record, John Clizer on the
18	Missouri Office of Public Counsel. Good afternoon, Dr. Marke.
19	A. Good afternoon.
20	Q. I am going to attempt to go in reverse order to
21	the questions that you were asked beginning with the questions
22	you received from the Bench. One of the questions you received
23	dealt with what data should be collected if the Commission were
24	to approve this program. Do you recall that question?
25	A. Yes.

1	Q. Can you to what extent is Evergy already
2	collecting data through existing AMI and how would that affect
3	what additional data can we collect that isn't already
4	available, I guess, is what I would ask?
5	A. What additional data could we collect? I
6	there's a handful a lot of the honestly, if you look at
7	the Ameren report, the quarterly reports, most of it is for
8	accounting treatment. I mean, it's a breakdown in costs. It's
9	locations. It's number of charges, unique charges that are
LO	using it. When they're charging, if at all. How long they are
11	charging. You know, a lot of that you can parse out through,
L2	you know, the AMI data. That is stuff that we're doing
L3	currently with Ameren that could be applicable if Evergy if
L4	we wanted to look at that for Evergy too, I guess.
15	Q. I guess my question to you is Evergy already has
L6	a Clean Charge Network. To what extent is this program going to
L7	supply additional data that isn't already available because of
18	that Clean Charge Network?
L9	A. I don't think anything.
20	Q. All right. You were asked about a study
21	regarding changes to code. Do you recall that?
22	A. I do.
23	Q. Is that effectively what are changes to code
24	effectively how the OPC believes the issue that the developer
25	rebates are meant to be addressed, should be addressed?

Yes, absolutely. This is -- I think it's naïve 1 Α. 2 to sit here and think we go if we give out, you know, a \$500 rebate or whatever go ahead and change a plug to entice a 3 developer that is going to put that sort of plug in there 4 5 anyway, first of all there's nothing in the tariffs or their 6 portfolio of program description to make sure that that plug is 7 actually going into an EV car or a new car at that. 8 infinitely, the most cost effective way would be to just go 9 ahead and build things the right way. I forget who asked me 10 that, if it was the RLJ or if it was Mr. Fischer. But just 11 building things the right way and that is be accomplished 12 through coding and standards at the local level. 13 I know for a fact that Ameren is very active in

I know for a fact that Ameren is very active in those discussions with different municipalities. Moving forward, you know, I suspect Evergy is to a certain extent too. but that's the route to move, just build these things right the first way, but trying to back end it like this and hope that it works will inevitably be cost ineffective.

14

15

16

17

18

19

20

21

22

23

24

- Q. Thank you. Now, I know you were asked a question about Xcel Colorado that you talked about at length. I don't suppose there's anything else necessary to discuss about the Xcel Colorado?
- A. No. Other than let's sit back and watch, you know, how it plays out. I think it is a very regressive option.

  I think it is a very expensive option. I mean, just switching

1 it from tax dollars to ratepayers, you're probably increasing 2 the cost about 44 percent and that's being socialized to a 3 smaller group of customers now, ratepayers, captive ratepayers and taxpayers. There's nothing at face value. You know, I 4 5 mean, it just -- it raises all sorts of ethical issues I think. 6 I mean, it's -- let's see how it plays out. I mean, again, none 7 of that is being offered here in this portfolio. I'm unaware 8 of --9 0. All right. -- or directive from the, you know, the 10 Α. 11 Governor's office that we're to hit a certain target of 12 electrical vehicles in the state. 13 You were asked about the Kansas stipulation and 14 specifically about the residential rebate and how Kansas parties 15 addressed that residential rebate. Do you recall that? 16 I do. Yep. Α. 17 0. Let's start with the just a reorientation of 18 what the residential rebate does. Can you explain briefly how 19 the residential rebate that's being offered is supposed to help 20 or benefit nonparticipants? 21 It's to take a \$500 rebate to incentivize 22 customers to get a charger in their premise, that's a Level 2 23 charger. So it will increase the overall ability to charge

quicker than you otherwise would.

24

2.5

1 A. I'm sorry. Go ahead.

- Q. How does that ability to charge quicker help nonparticipants?
- A. I mean, it could potentially hurt nonparticipants quite easily. The key here is that charging needs to be done during off-peak hours. If you go to work, you come home and you charge -- you know, you put your car in the garage and you charge it and you let it go, it will -- it's going to be increasing that overall peak. That's when everybody comes home for work. You're going to be -- everybody's flying, you know -- the TV, doing laundry, cooking food, and then we throw on charging their EV. That's putting more of a strain that's increasing the overall SPP price. That's costs that are being borne out by all ratepayers and by nonparticipants.

So effectively, what the Company out here is a program that would increase costs across the board. And not just cost, but it would also increase emissions because if you look at the generation profile of the units that are being run at night like that when you come home to meet that demand, it's not renewables. It's not intermittent, you know, generation because the full restrictions when it comes to renewables. You're bringing on gas, you're bringing on diesel. You know, you are further supporting coal. So if the end goal is, you know, towards a cleaner society, this program as it is drafted, doesn't accomplish that.

1	Q. All right. So what I want ask about is the
2	specific question you received from the judge related to the
3	idea that, what if we allow people who don't have who don't
4	want to adopt time of use to engage the program in a smaller
5	rebate. Do you recall that specific question?
6	A. I do.
7	Q. My question to you is, based on everything you
8	just said, if customers take this program and then don't use
9	time of use rates, what happens?
10	A. We're at 250 bucks. Again, to somebody that
11	already has an EV car and now is putting greater pressure
12	potentially on peak usage. Literally, every report there's
13	been a lot of reports that we've talked about points this
14	out. You know, it's the electric vehicle charging stations need
15	to be married to strong price signals that are tied to time of
16	use or you're effectively all you're doing is maintaining
17	maintaining the current fossil fuel generation and increasing
18	the distribution investment that companies are able to collect
19	their cap ex on it. It's a cheat code. It's a cheat code for a
20	nonessential service.
21	Q. You were asked another question by the Bench
22	regarding a minimum period that you would want a customer to be
23	on time of use. Do recall that question?
24	A. I do.
25	Q. Is there a way that we can calculate what the

minimum time would need to be in order for the program to effectively pay for itself?

- A. Well, there's two caveats to that. I mean, I've heard -- my understanding with Staff's analysis, if I recall correctly is it would take at least 20 years and that's with some very strong assumptions about rate case timing and future plant investments. So 20+ years and that, again, with very strong assumptions. I don't think that's probably particularly attractive for a lot of people. It just underscores why this program doesn't make sense. You know, again, there's just better ways of doing this other than just giving and just out money.
- Q. You were also asked by the Bench a question regarding the free rider problem in relation to this residential rebate program. Do you recall that?
  - A. I do.

2.5

- Q. And I believe you might have already touched on this in the answer to my previous question, but this program is not going to -- why will there still be a free rider program even if you adopt ChargePoint's recommendation to install an actual EV charger?
- A. I mean, the easiest way to say this -- and again, goes to the nonsensical issue here of, you know, why -- you think about charging your phone. You know, there's even batteries, you know, that can allow you to charge quicker or

slower. Absent any charging station, if you are an EV driver it's going to take you a while to charge at home. If you're serious about it, if you're moving forward, you're going to be buying these things anyway.

You know, my understanding is that a number of EV models are even offering, you know, this sort of equipment as part of their deal with buying cars. And, you know, to take it a step further, the technology is moving forward very quickly, but that is not really a free rider issue. The free rider comes down to this, is that people would do it anyway. I mean, people that value electric vehicles that look at that as a status symbol, that look at that as important to the environment or just a cool thing to do will also take the next step and invest in the appropriate charging structure for their home.

Absent that, it's an inferior experience. I have a tough time seeing somebody spend this sort of money that, you know, is required for a lot of these cars and not doing that.

- Q. Thank you. Let's move on to the questions you received from counsel from Evergy. These all had to do with the assumptions regarding the number of EVs in Kansas City or Greater Kansas City Missouri area territory. Do you call this line of questioning?
  - A. I do.

Q. Right at the forefront because a part of this

1	discussion concerned some of the data from the AFDC energy,
2	which is the Alternative Fuel Datacenter. Have you received an
3	email from me that include a copy of your workpapers?
4	A. Yes.
5	Q. And this is the workpaper that counsel for
6	Evergy was referencing in questioning you. Right?
7	A. Yes.
8	MR. CLIZER: Judge, I'm going to go ahead and
9	again, I'm not sure exactly how this works, but I'm going to ask
10	that this be marked as OPC 205. This is the workpapers of
11	Dr. Marke that was discussed during cross-examination.
12	JUDGE GRAHAM: All right. I have received them
13	a minute ago from you. I don't know if the other parties have.
14	Are you offering that now, Mr. Clizer? Are you offering it into
15	evidence? Did you say that?
16	MR. CLIZER: I had my apologies. I did not
17	mean to step over you. I had not actually offered it. I was at
18	this point sort of just asking it be marked. I believe he
19	already identified it. I could go ahead and offer it.
20	JUDGE GRAHAM: That's up to you. I was just
21	trying to clarify whether you had offered it because my
22	connection my computer is dinging at me. There's a lot of
23	stuff going on in my office. It's noisy just as you spoke.
24	Go ahead and qualify it with him and when you're
25	satisfied you've qualified it and laid your foundation, you can

```
offer it and we'll see if there's any objections to.
1
 2
                      MR. CLIZER: Your Honor, I guess I really laid
     the foundation for it. Dr. Marke has identified it as his
 3
     workpapers. This is what was discussed during
 4
 5
     cross-examination. I'll go ahead and offer 205 just to expedite
     the situation.
 6
 7
                      (WHEREIN; OPC Exhibit 205 was offered into
 8
     evidence.)
 9
                      JUDGE GRAHAM: Are there any objections to
     Exhibit 205?
10
11
                      MR. FISCHER: Judge, I would -- this is Jim
12
     Fischer. I would clarify, I don't think I asked any questions
13
     about his workpapers. I did ask questions about his footnote in
     his testimony that made reference to that, but I don't think I
14
15
    have an objection if they want to put it in.
16
                      JUDGE GRAHAM: All right. Well, I know that he
     testified or at least offered something. I heard something
17
18
     about workpapers here, but what I'm also hearing is you have no
19
     objection to 205. Does anyone else have an objection to 205?
20
                      MR. HALSO: Judge Graham. This is Joe Halso for
21
     Sierra Club and NRDC. I have not received this document.
22
     wanted to clarify whether it has sources listed in it because I
23
     think I heard Dr. Marke testify with Mr. Fischer that he did not
24
     consider himself an expert in EV adoption forecasting for
2.5
    numbers and so I want to know if there were sources listed in
```

```
this workpaper.
1
 2
                      JUDGE GRAHAM: Mr. Clizer, can you address that?
                      MR. CLIZER: Well, I can, sir, if the source has
 3
 4
    been identified the tab EV registration count and the Missouri
 5
     EV registration tab with the information provided by the
 6
     Department of Revenue as identified in Footnote 14 of Page 9 of
 7
     the rebuttal testimony of Dr. Geoff Marke. Dr. Marke, please
 8
     correct me if I misstated any of that.
 9
                      THE WITNESS: There's nothing -- the only
     correction that I would make is that these aren't forecasts.
10
11
     These are empirical numbers that are provided by government
12
     agencies. These are just the numbers that exist. There's no
13
     forecast involved.
14
                      MR. HALSO: Okay. This is Joe Halso, Judge.
15
    haven't seen it, but I'm satisfied with that explanation. Sorry
16
     for misunderstanding the document. I appreciated it.
17
                      JUDGE GRAHAM: The record will reflect then that
18
     exhibit -- is it 205? 205 is received into evidence.
19
                      (WHEREIN; OPC Exhibit 205 was received into
20
     evidence.)
21
                      JUDGE GRAHAM: You can go ahead, Mr. Clizer.
22
                      MR. CLIZER: Thank you, Your Honor. I was
23
     simply marking that on my page. All right.
     BY MR. CLIZER:
2.4
2.5
              0.
                      Let's start right off the bat with the lengthy
```

math discussions that occurred with Mr. Fischer, counsel for Evergy. Do you believe that Mr. Fischer correctly computed or identified the math. Let me just leave it at that.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

No. Mr. Fischer referenced the Evergy Α. application that referenced -- that said that EPRI estimated these numbers by this date. What substantiates those numbers, what supports those numbers, I haven't seen any evidence for that. What Mr. Fischer then tried to do was walk back those numbers and say, isn't it possible that if we believe EPRI's numbers, that 50 percent of the Department of Energy's numbers that list all electric could also be 50 percent hybrid. there's a couple of problems with that. The first one is this: It would be very easy for any outsider to get mixed up when we talk about batteries, plug-in hybrids or hybrids. They're three distinct kind of cars. Only two of them require an EV charging station. The third one doesn't. The third one is all gasoline that is able to use its powertrain to go ahead and use -generate electricity to offset that gasoline. But is not actually hooked up to an EV charging station.

Noiw, all of that information was provided and it's in my workpapers, from the Department of Revenue. And it breaks it down by county and by category. Those numbers -- the easy way to do the sanity check, again, it will be in the record so people, you know, can do this at home, you can just total up the overall EV count whether it's battery, plug-in, and look at

the plug-in hybrid and cross reference that with the other tab, which is the Department of Energy. What you find is that it's a couple hundred off. That couple hundred off can easily be explained because the Department of Revenue's numbers indicate, come from October and Department of Energy's numbers come from December. It's absolutely reasonable to expect that there are probably 200 more cars that were purchased in the state of Missouri that would have used the EV charging station. So this is the only empirical numbers that are out there.

If you were -- if I were to take what

Mr. Fischer said -- I mean, first of all, I would have to look

at data I haven't looked at and haven't had the opportunity to

look at. It would run counter to what is being reported, you

know, by the government, by two sets of governments at this

point.

So I'm at a loss as to how, you know, Evergy is coming up with their numbers. But even if we just conceded and said you know what, Geoff you're wrong. In the couple of months that are in question here there were thousands and thousands of electric vehicle adoption in the Greater Kansas City area, it would still be below what their EPRI projections are. I mean, like these are very low numbers and we're talking about, like, a half of a half of a half of a percent. Like, they are so low and it doesn't negate the fact, again -- nobody is using the charging stations, nobody. Like, it's not covering its cost of

- service. I mean, think they used the phrase, this is a case study in what not to do. The empirical evidence substantiates that. And the Company an opportunity to reply to my -- all of the data in surrebuttal and didn't.
  - Q. Okay. Thank you. You mentioned a few things I want to clean up really quick. You identified three different types of vehicles and then you mentioned one of them use the powertrain to recharge the battery. So for the sake of the record, which one of three is that?
    - A. It's called a hybrid electric vehicle or HEV.
    - Q. Okay.

2.5

- A. The only way I could get to where Mr. Fischer's math might be correct is if they count those types of vehicles. The problem with that is those types of vehicles would not use the Clean Charge Network.
- Q. Okay. I think you mentioned December. I wanted to clarify that, too. According to you workpaper, this was last updated June of 2021; is that correct?
- A. You're right. June of 2021. If that's what the workpaper say, that's what the website says, I got mixed up.
- Q. All right. And the last thing just to clarify for the record, with regard to the data you received from the Missouri Department of Revenue, the difference between battery and plug-in -- and I believe you testified to this with Mr. Fischer, but I want to make sure this is correct. Battery

1 is BEVs and plug-in is the PHEVs; is that correct? 2 Α. Yes. Okay. I just want to make sure that was all 3 Ο. clear for the record. Let's move on to the questions from 4 5 counsel for Sierra Club. You had some fairly long discussion regarding several studies that were performed or discussed in 6 7 this hearing with the counsel for Sierra Club. Do recall that discussion? 8 9 Α. I do. Can you just summarize what the bottom line is 10 0. 11 that you took away from all the studies that you've reviewed 12 regarding promotion of electric vehicles? So those studies look at -- and they're 13 Α. Yes. 14 plural studies, so the depth that each individual study might go 15 into on a particular topic is going to vary. But they're looking at EV charging stations. They're looking at prices. 16 They're looking adoption. They're looking at usage. They're 17 18 looking at all sorts of different characteristics to make sense of how to promote and move forward with electrifying the 19 20 transportation network. 21 We are gravitating towards a very narrow niche, 22 which is just the EV charging stations themselves. The end 23 result on that particular point from these studies is that a 24 ubiquitous charging network is not necessary, like gas stations,

because 85 percent or more charge from home and, you know, the

Academy of Science, you know, for them to categorically say that, you know, federal funding at the time isn't warranted because we can't draw a good, strong conclusion -- or we can't draw any conclusion between EV adoption and EV charging stations. Like, to me that's the more pertinent point because these programs in this portfolio is all we're talking about is EV charging stations. If you had a docket that was talking exclusively about you know, affordable rates, which is a huge topic in the National Academy of Science, that would be another element.

Q. I believe you were also asked a question from Sierra Club regarding the interest of Sierra Club in this docket. How do you view Sierra Club's interest in this docket?

A. I think when I was asked the question by
Mr. Woodsmall, I think my exact answer was that they provide
sort of a macro level environmental perspective. My
understanding of the Sierra Club is that they are moving towards
-- they're environmentalists. They're trying to curb carbon
emissions and that tailpipe that transportation is an important
part of getting to that net zero carbon world. The big issue -if the big issue -- and this is expressed in Sierra Club's
testimony, you know, when they get -- when they're supporting
time of use rates and saying, you know, just load building for
the sake of load building doesn't do anything with absent time
of use rates. I mean, take it a step further, if we're not --

if we're not doing this correctly, if we're not doing this
wisely, we're keeping those coal plants long open longer. And
that would run counter to my understanding of what the Sierra
Club's mission is. The fact that Evergy is already publicly
stated that they're going to keep Lawrence Energy Center open,
their big coal plant on for a long period, longer than they had
initially announced, should give Sierra Club and any reasonable
environmentalist pause in promoting a load building program. It
is all of those things and the opportunity costs in trying to
solve those answers matter. It just needlessly increasing
rates and throwing money at things without rhyme or reason
and that runs counter to the existing pilot studies and the
empirical evidence, is not a good use towards getting to that
that net zero outcome.

- Q. Thank you. Let's move on to the questions you received from counsel for Missouri Energy -- sorry -- MECG. You were asked a question regarding the developer rebate program resulting in free ridership. Do you recall that?
  - A. I do.

- Q. Are there other problems with the developer rebate program beyond the mere free ridership, though?
- A. The program itself is a nonsensical program.

  You know, let's put a sticker on, you know, to encourage you charging at a different hour. There's no sanity check. There's no quality assurance effectively in the developer program. So

the free rider issue is just throwing money at, you know, at 1 2 something that should naturally occur. No check to see if this isn't going into plugging in an RV, for example. So all of 3 those things, honestly it looks just like a red herring. It 4 5 looks like something that is easy for the Commission to go ahead 6 and say, well, we're not going to give you the developer but 7 we'll give you something else. 8 Q. You were also asked a question from counsel for 9 MECG regarding the 2016 report and order. I believe the Case 10 Number ER-2016-0285. Do you recall that? 11 Α. T do. 12 MR. CLIZER: Your Honor, I'm going to pause here 13 for just a moment. It's my understanding that there has been a 14 request the Commission take official administrative notice of a 15 2015 report and order, which as I understand it, the Commission is taking under advisement. For the sake of completeness, I 16 17 would request that the Commission similarly take official 18 administrative notice of the ER-2016-0285 report and order. Or in the alternative, for the portions directly related to the 19 20 Clean Charge Network that was discussed in the testimony and 21 cross-examination today and I fully understand that the 22 Commission will reach the same conclusion as it has with the 23 2015. 24 JUDGE GRAHAM: Okay. Your request is noted. 25 MR. CLIZER: Thank you.

## BY MR. CLIZER:

2.5

- Q. What is your general takeaway regarding the 2016 report and order as it relates to the Clean Charge Network, Dr. Marke?
- A. Allowing utilities to recover cost for electric vehicle charging stations in plant creates regulatory barriers for new entries, unfairly punishes existing competition and shifts risk from shareholders to ratepayers. And this is verbatim from that report and order. I think it's -- I think it's highly inaccurate, arguably disingenuous for the Company to come out here and imply that the Commission is 100 percent behind nonsensical programs that just shift, you know, risk on to ratepayers. I also think the idea behind, you know -- and I couch that by saying clearly our commission supports EV -- sound EV adoption. The fact that they agree to an Ameren stipulation, you know, that all parties agree to, the fact that we've had multiple workshop dockets about how to forward with this, all of those should be more than enough positive, you know, signals to negate any sort of decisional prudence.
- Q. Well, you've actually predicted my next question which was with regard to the question regarding the question regarding decisional prudence you received from counsel for MECG. And just to briefly reiterate, it is your opinion that Evergy does not make guidance from the Commission on this because they've already received guidance through past

decisions. Is that a fair assessment of what you just stated?

A. It is.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- Q. Thank you. There were quite a few questions discussed regarding the affordability of rates. I believe counsel for MECG asked you directly regarding the affordability of Evergy's rates. Do recall that line of questioning?
  - A. I do.
- Q. Do you believe that the difference in rates between Evergy and Ameren service territory has affected EV adoption?
- I do. I do. And it's not just that -- it's --Α. yes. Customers are paying a lot more for energy on the west side of the state than they are on the east side of the state. And I have every reason to believe with their upcoming STP outline, with the Storm Yuri cost this is just going to be exacerbated. That absolutely will have an impact on EV adoption. The -- and it's regressive. I can't stress this enough that the vast majority of customers that have taken advantage of this -- and this is my testimony -- that take advantage of the EV tax credits are affluent. They make more money than the average household makes in this state. And you know, hats off to Ameren for, you know -- it has been good in addressing low income issues and trying to deal with arrearages and disconnects. You counter that with the Company like Evergy when we ended up having to go to hearing over COVID over

- 1 specifically whether or not the Company and shareholders would 2 be able to foot half of an arrearage program that ratepayers were willing to go ahead and subsidize too. I mean, we went to 3 a hearing over that, which is a drop in the bucket compared to 4 5 what we are talking about here, which is giving \$500 a pop to ratepayers that already have EVs. This -- I don't know how in 6 7 good conscience you can sit here and say this is somehow 8 equitable or in the best interest of ratepayers, and people will suffer because of it. 9
  - Q. Thank you, Dr. Marke. I'm going to move on to the questions that you received from the staff of the Public Service Commission. You asked a question regarding third-party charging providers and how that would help or hinder competition. Do you recall that?
    - A. I do.
  - Q. And do you recall in your answer you discussed the potential for obsolescence of technology?
- 18 A. I do.

10

11

12

13

14

15

16

17

22

- Q. Does that issue regarding obsolescence of technology also play into the other parts of the proposed program?
  - A. Absolutely.
  - Q. How so?
- A. So the big issue is this -- well, I'm not sure how it would play into the developer. I mean, the developer

just doesn't make sense. I quess I will concede on the 1 2 developer. In terms of the residential, it's just quite simply that the technology is just going to improve and we're seeing 3 that on a daily basis -- maybe not daily basis, that's 4 5 exaggerating. You look at where things were at five years ago, 6 six years ago when this -- when the Company first started the 7 Clean Charge Network to today. And if you wanted to take a bet, 8 just a reasonable because that is effectively what the Company 9 is asking ratepayers to do here, is make a bet on their captive 10 dollars on what is going to be the best technology to induce EV 11 adoption moving forward and have that in there. This isn't it. 12 You know, the clearest example I would point to again is Finland. You know, It's already looking towards 13 inductive wireless charging. It is utilizing that. You can 14 15 Google that very thing right now and you can find all sorts of 16 articles on how that's moving forward. The fact that ABB has 17 already come up with a more efficient, quicker charging station 18 underscores that. This is a real risk to captive command 19 control ratepayers, not a risk to the market. Right. 20 what the market is supposed to do. And we -- you know, the

Q. Thank you, Dr. Marke. Now, you had mentioned in conversation with Staff counsel the group Elliott Management.

Commission has been -- was consistent in that rate case report

and order that you cited earlier making that very statement.

Just for the sake of the record, to make sure it's complete,

21

22

23

- 1 could you very briefly describe who or what Elliott Management 2 is and their relationship to this case?
- Elliott Management is a large investment firm. 3 Α. It's also been characterized as an activist investment firm. 4 They hold a significant stake of Evergy shares and has garnered 6 considerable amount of public attention in commission dockets in 7 both Kansas and in Missouri about their interest in increasing 8 the valuation of Evergy and whether or not the increase in the valuation of Evergy is tied to prudent investment or not.
  - 0. Thank you. You were asked a question from Staff counsel regarding the ICF cost-benefit analysis. Do recall this line of questioning?
    - I do. Α.
  - 0. Is it your opinion that if the Commission approves this program, they are simply approving this type of study?
    - Α. Yes. And --
    - Do you see a problem with that? My apologies. Q.
- 19 Α. Yes.

5

9

10

11

12

13

14

15

16

17

- 20 Ο. I don't speak to over you.
- 21 Yes. I would implore. I've been doing this in 22 multiple cases with this company that we're just throwing money again at studies that tell us the most obvious of conclusions 23 24 and the ICF study -- we had ICF issues with Ameren to in that 2.5 docket. So maybe there's a running theme here. But the -- if

they approve this program, they would also be approving the 1 2 funds that supported the conclusion. Again, the conclusion being having EVs is good. No comment on the actual proposal and 3 4 portfolio. 5 Q. Thank you. MR. CLIZER: Your Honor, if you'll permit me one 6 7 minute, I'm going to review my notes, but I believe I might be 8 at the end of my cross. Please give me a minute. 9 JUDGE GRAHAM: Okay. 10 MR. CLIZER: Thank you. And I meant to say 11 redirect, but I believe I have concluded my redirect. 12 JUDGE GRAHAM: All right. I believe that 13 concludes the testimony in this case. From reviewing the 14 schedule, we have an operation of law date on the sheets of 15 January 24, 2022 according to what I am seeing. The hearing 16 initially was scheduled for October 12th and 13th and we are out 17 six days from that. So we've lost some time there and the 18 initial briefs were due -- are due pursuant to the current order 19 on November 5th, with reply briefs due by November the 19th. 20 The extent to which all of that will be effected, we'll just 21 have to see for a bit. In other words, I am not going to do 22 anything from the Bench here, orally, that endeavors to modify 23 that. Obviously, I'm recognizing that we are thrown back six 24 days in our schedule in doing things here. 2.5 We are going to have transcripts coming in.

1 We'll have to see when they come in. Let's take one thing at a 2 time here. With respect to exhibits, I've been watching you folks hand in exhibits here this afternoon. I believe that in 3 every instance where you've offered an exhibit, it has been 4 received into the evidence. We had some discussion, but 5 ultimately I don't believe any objection has been made after 6 7 explanations to any exhibit and I believe that every exhibit that has been offered is in. 8 9 MR. CLIZER: Your Honor? JUDGE GRAHAM: Go ahead. 10 11 MR. CLIZER: Clizer from OPC. I don't know if 12 you're about to make an exception. Let me wait until you are 13 finished. I apologize. I did not mean to interrupt. JUDGE GRAHAM: Well, I was going to say I don't 14 15 believe Staff has offered their exhibits yet. I just put that out there. They reserved that until they got done -- the 16 statement made by counsel a number of time. Perhaps I did not 17 18 hear or perhaps I'm not understanding what I'm hearing on the 19 phone and so forth. I did have a question in my mind as to 20 whether Staff had offered all of these exhibits. 21 Where I was going to go with this is I'll be 22 issuing an order in the next day upon reflection that clarifies 23 this. I anticipate ordering that the parties confer and file a 24 joint list of exhibits that have been presented and accepted

25

into evidence.

1	In that regard, I'll be issuing an order that
2	requires you to confer on exactly which orders you wish for me
3	to take official notice of. I would remind you that I do not
4	think under the law a Missouri tribunal such as this can simply
5	officially notice an event in Kansas, for example,
6	administrative agency. Not to say that that stipulation cannot
7	be received into evidence, but I don't think that we can make it
8	a part of our record simply by judicially or officially noticing
9	it. There's going to be a separate category that involves
LO	official orders from Kansas and reports and orders and some such
11	that have been entered into the state of Missouri that you asked
L2	the Commission officially to notice and that I've taken under
L3	advisement. I'm going to be asking you to lay out specifically
L4	for me what you want us what you want the Commission to
L5	officially notice. Do you want the entire report and order or
L6	the entire order officially noticed, so be it. You can ask
L7	that. I'm just kind of going through some matters here.
L8	Do any of you have any observations or questions
L9	or suggestions at this point?
20	MR. CLIZER: Yes. Your Honor, this is John
21	Clizer from OPC.
22	JUDGE GRAHAM: Go ahead.
23	MR. CLIZER: I would note that I do not believe
24	that the Evergy Exhibit 8 was ever actually taken up for
25	consideration. My recollection was that it was offered

```
1
    effectively almost at the end of the hearing and such as it was
 2
    on Wednesday of last week, with the statement that it would be
     taken up after the break and the Commission ultimately decided
 3
    to postpone the remainder of the hearing until today.
 4
                                    I have that, yes.
 5
                      JUDGE GRAHAM:
 6
    Mr. Steiner sent it to me again a little while ago or
 7
    Mr. Fischer did. One or the other.
 8
                     MR. FISCHER: Yes, Judge. This is Jim Fischer.
 9
    Mr. Clizer is correct. We discussed Exhibit 8, but we never
    really got to a resolution. That is the document that goes with
10
11
     the Kansas stipulation, the original stipulation required the
12
    Company to supply additional details to the KC staff and the
     consumer advocate there related to the customer education and
13
    marketing program. Exhibit 8 is that document. If I did not
14
15
    ask for it, I'd ask it be admitted into the record.
16
                      JUDGE GRAHAM: I have it open in front of me
17
    here. Two things in that regard. One as to all the exhibits
18
    before I forget, I would ask that all exhibits after they been
    received into evidence be filed in EFIS. Now, there are
19
20
    confidentiality issues. We could take that up in the usual way
21
    when we file confidential documents or documents that have to be
22
    protected. But overall let's get them into EFIS.
23
                     Now, specifically with respect to Exhibit 8
    which I have in front of me. And the title at the top I'm
24
25
    showing -- the first line is Evergy's customer
```

1	education/outreach of transportation electrification programs
2	and rates. Are there any objections from any party to the
3	admission of that exhibit, Exhibit Number 8 into evidence?
4	MR. CLIZER: Your Honor, the OPC did had a
5	tentative objection to this exhibit and it's premised on the
6	fact that both OPC and Staff, to my knowledge, have criticized
7	the Company for failing to provide additional detail regarding
8	its education program. I didn't the OPC objects to the
9	extent that this program this exhibit is offered to
10	supplement the Company's initial application in this regard. If
11	the Commission will note for the record that this exhibit is not
12	part of the official application in Missouri and was never
13	presented to the stakeholders in Missouri prior to this hearing,
14	I don't know that this issue necessarily would prohibit taking
15	up the exhibit. I wanted to state for the record that concern.
16	JUDGE GRAHAM: Well, well stated. That is a
17	good concern. That's a good argument. Is that a proper
18	objection to an exhibit? Do you have an objection to the
19	exhibit as such? You know, the statement from your argument
20	about, you know, its relationship to the application and so
21	forth. Do you have any objection to exhibit itself? I
22	understand that you have arguments about it.
23	MR. CLIZER: I mean, I guess I could qualify it
24	as a relevance exhibit. Sorry, a relevance objection. I'll
25	just stand on my previous argument for the most part.

```
JUDGE GRAHAM: Well, I recall you and many other
 1
 2
     lawyers asking many questions about the Kansas stipulation or
 3
     the Kansas partial stipulation and so I think the door is open
 4
     on that. That objection -- that objection is going to be
 5
     overruled. Any other? All right. Exhibit 8 is received into
 6
     the record.
 7
                      (WHEREIN; Evergy Exhibit 8 was received into
 8
    evidence.)
 9
                      JUDGE GRAHAM: Now, let me address Staff's
10
     counsel. Help me. Have you offered all of the exhibits? Has
     Staff offered its exhibits at this point? Have I lost staff's
11
12
     counsel? Have I lost everybody?
13
                      MR. CLIZER: Judge, I can still here you.
14
    Clizer from OPC.
15
                      MR. FISCHER: I can hear you, Judge.
                      JUDGE GRAHAM: Are you and I the only three on
16
17
     the phone?
18
                      MR. WOODSMALL: Woodsmall is here.
19
                      JUDGE GRAHAM: Is staff's counsel on the phone
20
    with us in the hearing?
21
                      MR. FISCHER: She is on our screen, Judge.
22
                      MR. CLIZER: Nicole, for whatever reason we
23
     can't hear you.
                      JUDGE GRAHAM: Well, if she hasn't offered her
24
2.5
     exhibits I'll enter an order that allows her to. The order will
```

1	contemplate any further objections it will contemplate any
2	after, posthearing exhibits that someone wants to present.
3	Are there any other matters at this point?
4	MS. MERS: Your Honor, this is staff counsel
5	again. Can you hear me now?
6	JUDGE GRAHAM: Who is this? Is this staff
7	counsel?
8	MS. MERS: Yes.
9	JUDGE GRAHAM: All right. Well, I can hear you
LO	now. But I don't know have you been able to hear us?
L1	MS. MERS: I was able to hear. I was able to
L2	hear you guys when the question was asked about the testimony
L3	and then I disconnected to try to see if I could fix it on my
L4	end and looks like I have. In response to the question that you
L5	asked, Staff did enter both Exhibit 100 and 101 during the
L6	direct of Ms. Robin Kliethermes and you accepted those. There
L7	were no objections.
L8	JUDGE GRAHAM: All right. You didn't have any
L9	other exhibits that I recall.
20	MS. MERS: No, we did not, sir.
21	JUDGE GRAHAM: All right. Now, aside from
22	taking official notice of some orders, people have added reports
23	and orders and whatnot here in the state of Missouri, and aside
24	from the question of what we're going to do if anything about
25	the Kansas stipulation, it's my belief and understanding that

all exhibits now that anyone wants offered are offered and have 1 2 been accepted. Does anybody have any questions or concerns about that? 3 MR. CLIZER: I do have one question. This is 4 5 Clizer from OPC. You had previously stated, Your Honor, that you would like all parties to file copies of the exhibits in 6 7 EFIS. That is not a problem. 8 JUDGE GRAHAM: Yeah. 9 MR. CLIZER: My question to you is does that 10 include the prefiled testimony, which is already in EFIS? 11 other words, should we refile prefiled testimony in EFIS under 12 an exhibit number? JUDGE GRAHAM: Yes. I will enter an order on 13 14 that, but that is an excellent question. And that's the way I 15 want it done. It may seem redundant, but -- and even 16 repetitious -- but it will make EFIS absolutely clear that we 17 have -- that Exhibit 100 is in there and it is designated as 18 Exhibit 100 and so forth and so on in EFIS. Thank you for that 19 question. 20 MR. CLIZER: I have one other question and I 21 apologize for being so difficult. The workpapers of Dr. Marke 22 are native filed Excel. Does it matter to the Commission 23 whether they're filed as a Excel file in EFIS or should I publish it as a PDF? I could alternatively do both and of 24 25 course this doesn't need to be answered now if the Commission

1 would like to think on it. JUDGE GRAHAM: I don't want to think about it. 2 I want to check with our data center. They may have some, you 3 know, specific technical concern that I need to be made aware 4 5 of. Any other matters? 6 MR. HALSO: Your Honor, yes. This is Joe Halso 7 for Sierra Club/NRDC. With respect to the briefing schedule, 8 should we understand your comments to mean you're inclined to 9 push it back, but have yet to determine how long or what -- how 10 many days or should we understand your comments to mean you 11 haven't decided if you will change it or not? 12 JUDGE GRAHAM: Well, my inclination is to find 13 out what you-all want to do. It occurs to me -- you know I was 14 studying on this and thinking about this as the hearing was 15 winding up. And one thing that occurred to me of course was 16 that you would just like to get your briefs in pursuant to the 17 current briefing schedule and just deal with it with some of 18 your time curtailed. But an unknown here -- the unknown in all 19 of this is when exactly the transcript will be ready to go. We 20 had a lot of drama last week in this hearing and so we have a 21 variable in here. I want to see where that lands. You know, 22 I'm not going to pinch you guys and tell you that you have to 23 have your briefs in 72 hours or something. 24 I'm sorry to talk around your question with my 25 answer, but I want to be able -- I want to get good briefs from

# ET-2021-0151, Vol. III

1	you. I need good briefs from you. So if you want to discuss			
2	this and go ahead and agree among yourselves to an extension, go			
3	ahead and ask. We would you've lost six days here. I			
4	wouldn't anticipate that you would want to add more than six			
5	days to your briefing schedule. Weekends were involved in that,			
6	which we've got to keep that operation of law date in mind. And			
7	one thing that I've always got to keep in mind to is then the			
8	reports and order will issue with respect to when they are			
9	effective, 30 days, ten days, whatever. There's a lot of			
10	scheduling that's involved there and I've got a dropdead date,			
11	an operation of law date on January 22nd to deal with. So			
12	that's the long answer to your question.			
13	I don't have an inclination at this point as a			
14	direct answer to your question because of the question of when			
15	this transcript is going to be ready to go.			
16	COURT REPORTER: I'm going to try my best			
17	November 2nd, end of business day.			
18	JUDGE GRAHAM: Okay. All right. I wasn't			
19	prodding you with all of that.			
20	JUDGE GRAHAM: I was trying to recognize that			
21	you are in this conversation. Anything else gentlemen and			
22	ladies? Well, with that we will conclude the hearing and go off			
23	the record. Have a good day.			
24	(OFF THE RECORD; the hearing has concluded.)			
25				

#### CERTIFICATE OF REPORTER

I, Lisa M. Banks, CCR within and for the State of Missouri, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken, and further, that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

Lh Bank S

Lisa M. Banks, CCR No. 1081

# ET-2021-0151, Vol. III

1	TMDEV	
1	INDEX	Page
2	STAFF WITNESS: Claire Eubanks Direct Examination by Ms. Mers	456
3	Cross-Examination by Mr. Clizer	458
4	Questions by Judge Graham Recross Examination by Ms. Mers	460 466
		- 0 0
5	STAFF WITNESS: Kimberly Bolin Direct Examination by Ms. Mers	469
6	Cross-Examination by Mr. Clizer	470
7	STAFF WITNESS: J. Luebbert	474
8	Direct Examination by Ms. Mers Cross-Examination by Mr. Clizer	474 475
9	Redirect Examination by Ms. Mers	479
	STAFF WITNESS: Robin Kliethermes	
10	Direct Examination by Ms. Mers Cross-Examination by Mr. Clizer	480 484
11	Cross-Examination by Mr. Dunbar	490
12	Questions by Judge Graham Redirect Examination by Ms. Mers	501 508
13	OPC WITNESS: Geoff Marke	
14	Direct Examination by Mr. Clizer	514
14	Cross-Examination by Ms. Mers520 Cross-Examination by Mr. Woodsmall532	
15	Cross-Examination by Mr. Halso Cross-Examination by Mr. Fischer	563 574
16	Questions by Judge Graham	584
17	Redirect Examination by Mr. Clizer595	
18		
19		
20		
21		
22		
23		
24		
25		

# ET-2021-0151, Vol. III

1	EXHIBIT INDEX				
2	EVERGY: OFFER Exhibit Vol 1, 153623	RED	RCVD		
3	Evergy Mo Metro Schedule R, PSC MO No. 7, and	other d	locuments		
4	STAFF: Exhibit 100P, 100C, Public and Confidential482483 Staff rebuttal report				
5					
6	Exhibit 101 Surrebuttal testimony of Robin Kliethermes	482	483		
7	OPC:				
8 9	Exhibit 200P, 200C, Public and Confidential518518 Rebuttal testimony of Geoff Marke				
10	Exhibit 201 Surrebuttal testimony of Geoff Marke	518	518		
11	Exhibit 204 Rebuttal errata sheet of Geoff Marke	518	518		
12	Exhibit 205	604	605		
13	Rebuttal workpapers of Geoff Marke	001			
14	MECG: Exhibit 500	550	551		
15	Evergy various tariffs		331		
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

\$ **\$0.21** 505:25 **\$1** 488:23 590:24 **\$100** 533:25 534:3 594:1 **\$16** 523:12 **\$2** 488:23 **\$2.21** 505:25 **\$29** 489:11 **\$300** 535:14 **\$5,000** 589:15 **\$500** 528:11 556:5,20 557:3 561:7 586:20 587:13 597:2 598:21 615:5 **\$706,000** 557:7,9 **\$9** 529:20 556:8 0

0151 452:20,22 453:9
02/24 574:23

1
1 490:19 537:10,15

557:16 593:5

**1,291** 576:17

**1,305** 519:13 **1,394** 576:18 **1,412** 517:7 519:13 556:24 557:5 576:5, 10,23 577:2 579:1,4, 11,16 **1-650-479-3207** 452:11

**1.2** 510:1 **10** 497:5 526:16 578:19 **100** 456:17 469:14 474:8,24 481:6 482:9, 16,22 483:4,6,9,10,11 498:10 613:11 624:15 625:17,18

**100C** 482:12 **100P** 482:12

**101** 481:8 482:10,12, 18,22 483:14,17,19 624:15

**103** 576:17

**107** 519:13 577:2

**10:15** 513:13

**10:30** 513:7,13,16

**11** 526:17 532:24 566:5

**12** 504:23 505:2 506:2,19 532:24 587:2

**12,700** 571:20

**12-month** 505:11 506:1,8

**12:00** 573:9

**12th** 618:16

**13** 527:10 575:25 577:7

**13,500** 581:13 582:8 583:10

**13th** 451:4 618:16

**14** 476:11,13 529:1 572:9,12,17 578:6 580:2 581:3 582:21 591:14 605:6

**14-50** 460:25 461:1,8 462:9,11,12,21 463:4, 10

**14.1** 489:7,9

**15** 491:18 513:14 527:3,10 559:8

**15.5** 489:10

**150** 499:11,14 540:9

**17** 481:13,21,22 517:7

**18** 496:3 587:2

**19th** 451:2 618:19

1st 538:24

2

**2** 491:1,21 492:4,14 493:5 495:24 567:5 598:22

**2,040** 577:12

**2,041** 575:10,11

**2.2** 575:25 577:7,9

**20** 456:24 557:16,18 565:14 601:5

**20+** 601:7

**200** 515:5 517:22 518:5,18 519:16 607:7

200C 518:2,7

**200P** 518:2,7

**201** 515:6 517:24 518:2,5,7,17 519:16

**2014** 540:13,17,18

**2015** 522:9,12 566:19 568:13 570:14 612:15, 23

**2016** 526:18 540:17, 23 541:2,15 564:10,16 565:1 566:6 612:9 613:2

**2017** 564:15 565:5,20, 25

**2018** 538:21

2019 538:24

**2020** 575:10,21 577:12 578:15 580:23 581:6,12 582:6,23

**2021** 451:2 520:23 524:5 608:18,19

2022 535:19 618:15

2032 479:21

**204** 515:14,18 516:6 517:25 518:2,5,7 519:17

**205** 603:10 604:5,7, 10,19 605:18,19

**21** 490:21

**22** 476:11,14

**22nd** 627:11

**23** 557:16,18

**24** 618:15

24-hour 498:24

**240-volt** 562:7

**24618010821** 452:13 453:7,8

**25** 456:22

**250** 504:25 600:10

**285** 541:3

29 458:14 489:11

2nd 627:17

3

**3** 479:15,18 481:12,14 494:12 525:22 557:15, 17,18 563:20,21 564:13 565:4,7,14,18, 22,24 578:20

**3,010** 576:10

**3,500** 534:7

**3,600** 520:17

**3,681** 578:22 579:3,8, 15

**30** 524:7 627:9

**3010** 575:20

31st 580:23

**34** 510:10

**35** 510:10

<b>350</b> 499:21	583:6	<b>AB&amp;B</b> 531:23	Act 542:21 543:1
	<b>6,740</b> 578:16 580:3,5	<b>ABB</b> 616:16	action 560:17
4	581:4,11,21 582:6,22 583:9	ability 495:3 543:2	activated 498:16
<b>4</b> 475:18 476:7 557:16	<b>6.6</b> 499:12,19,20	598:23 599:2	<b>active</b> 597:13
559:7 563:20 565:7, 24,25 572:13,17,24	<b>600</b> 539:25	<b>absent</b> 533:10 602:1, 15 610:24	actively 551:24
578:20	<b>650</b> 539:6,10,15 540:8	absolute 477:4	activist 617:4
<b>4,093</b> 579:5,14 582:11	<b>676</b> 581:11	absolutely 476:16	acts 589:9
583:14		477:9 507:21 521:11	actual 465:24 471:1
<b>4240-20.05(2)(C)</b> 456:24	7	531:19 532:2 533:21 534:20 537:13,15	486:18 490:25 581:15, 16,17 593:8 601:21
<b>44</b> 598:2	<b>7</b> 458:17,20 476:7	562:9 597:1 607:6 614:16 615:22 625:16	618:3
<b>45</b> 513:6 577:16,21	481:12 559:7 575:1	<b>AC</b> 567:5,7	add 492:11 502:14,18
578:1	<b>7.5</b> 577:3	,	519:11 521:17 570:5 594:8 627:4
	<b>700</b> 565:8	<b>Academy</b> 527:6 559:10,14,16,23,25	<b>add-in</b> 511:11
5	<b>72</b> 458:21,25 459:12	564:18 565:10 572:8, 21 573:2 610:1,9	added 465:3,19
<b>5</b> 476:11 497:11,18,23	510:3 626:23	Accelerating 575:5	477:17 519:4,7,11 579:3,13 624:22
498:1,3,7,15,18,19,22 499:5 510:9	8	accept 557:7 560:23	adding 479:12 532:22
<b>5,093</b> 579:18,20		accepted 455:4	579:15
583:14	<b>8</b> 491:14,18 518:23 620:24 621:9,14,23	619:24 624:16 625:2	addition 534:17
<b>50</b> 462:10 497:19,22,	622:3 623:5,7	access 496:6 498:12	additional 458:21
25 498:20,24 534:9 606:10,11	<b>80/20</b> 560:10,20,25	549:19	477:2 502:24 510:9 519:4 521:17 523:20
<b>50/50</b> 581:9 582:3,5	<b>800</b> 539:10	accommodate 588:17	532:18,22 592:6,24
583:3,9,12	<b>85</b> 558:9 592:3 609:25	accomplish 586:19	596:3,5,17 621:12 622:7
<b>500</b> 543:18 545:1,2,12	<b>861</b> 535:10	599:25	address 453:12
550:15,16,20,25 551:1 557:6		accomplished	454:19,20,21 455:11
<b>5093</b> 579:19	9	597:11	463:21 464:8 465:4,21 501:15,20 605:2 623:9
<b>50P</b> 462:8	<b>9</b> 456:22 518:23	accounted 459:18	addressed 466:19
<b>546.070</b> 542:22	527:10 576:14 578:4 605:6	accounting 470:17 471:18,22 538:9,15,23	596:25 598:15
<b>55</b> 577:13,20	<b>900</b> 491:12 528:4	596:8	<b>addressing</b> 587:10 614:23
<b>55/45</b> 582:4	<b>901</b> 491:7	accruing 591:2	adequate 533:23
<b>550,000</b> 509:24	<b>969</b> 575:12	<b>accurate</b> 459:6 477:21 521:13 560:12	adjourn 513:12
<b>5th</b> 618:19		573:2	adjourned 451:3
	A	accurately 558:2,20,	administer 455:17,24
6	<b>AAO</b> 470:17,21	24 559:13,23 572:21	468:13,20,24 473:18,
<b>6,700</b> 581:12,22 582:7	471:10	acronym 522:3	21 480:9,18 514:12,16

administrative

507:13 542:21 543:1 612:14,18 620:6

admission 622:3

**admitted** 483:10,18 517:4 518:6 519:20 550:25 621:15

**adopt** 568:20 570:20 600:4 601:20

adopted 525:5

adoption 520:11,23 521:2 522:13 523:6,7, 16 524:8 525:19 526:24 530:9,11 534:23 552:23 553:1 556:17 557:24 560:5 564:14 577:10 589:11 591:4 604:24 607:20 609:17 610:4 613:15 614:10,17 616:11

**advantage** 560:24 562:22 614:19,20

advice 521:21

**advisement** 612:16 620:13

**advocate** 555:20 621:13

**AFDC** 603:1

affect 538:4 596:2

affected 614:9

affluent 614:20

**affordability** 535:5,7 536:18,21 537:12,15 538:4 614:4,5

**affordable** 523:15 525:16 530:10 534:22 535:12 610:8

afforded 589:25

**afternoon** 574:5 595:18,19 619:3

agencies 605:12

agency 620:6

agree 471:3,6 476:18, 20 477:25 486:6,7,17 487:8 492:2 496:12 497:3,6,24 499:6,14, 25 502:13,17 520:12, 14 522:21 524:20 525:1 526:2 533:6,9, 14 534:18 535:23 537:6,10 542:2 544:20 546:20 549:1 555:15 558:2,19 559:13 577:2,19 585:17 588:14 613:15,16

**agreed** 455:4 493:18 589:20

627:2

**agreement** 457:25 464:18,19,20 492:15 504:3 528:1 541:24 588:12 590:14 592:12

agreements 541:13

ahead 453:14 457:12 461:11 466:16 481:20 483:22,23 503:21 508:4 516:20 522:4 526:24 529:20 530:6 531:7,22 533:25 534:1 537:24 544:3 545:8 548:16 556:5,14 584:22 586:3,18 587:6 590:6 591:23 597:3,9 599:1 603:8,19,24 604:5 605:21 606:17 612:5 615:3 619:10 620:22 627:2,3

air 462:4

algorithm 523:2

allocations 477:12

allowable 496:19

allowed 496:22

Allowing 613:5

**aloud** 565:15

alternate 567:8

**alternative** 567:8 603:2 612:19

alternatively 625:24

altogether 537:14

amended 590:16

Ameren 454:9 471:14,17 488:19 504:3 507:9 510:24 521:14,15 524:13 526:10,17 527:18,25 528:3 529:10 535:22 541:13 555:7 556:4 560:3 592:21 593:14 594:20 596:7,13 597:13 613:15 614:9, 22 617:24

**Ameren's** 464:11 564:5

**America** 465:20 536:16

**AMI** 529:14,15 586:17 591:17 596:2.12

**amortization** 470:20, 24 471:4,7,10,20

**amount** 487:13,16 499:8 502:11,16 523:9 528:17,21 551:22 617:6

**amounts** 552:24 555:23 556:2

**AMR** 593:20

**analysis** 456:13 477:22,23 479:10,12, 17 497:3 524:24 566:20 592:9 601:4 617:11

analyze 497:23

**ancillary** 496:20 497:11,12,18,23 498:1,15,18,22,25 499:5

announce 529:6

announced 611:7

**annual** 504:5 509:23 531:6

**answers** 457:4 469:20 474:15 482:1 517:11,17 574:11 611:10

anticipate 592:22 619:23 627:4

**anticipated** 592:13 594:10

**anxiety** 531:22 534:13 557:21

**apologies** 603:16 617:18

**apologize** 462:12 483:23 507:23 542:7 569:11 582:17 594:6 619:13 625:21

apology 492:11

**Appeals** 541:16

appearance 451:8

apples 479:22

appliances 463:9

applicability 547:15

**applicable** 526:2 596:13

**application** 451:4 470:21 471:21 479:18, 23 486:22 488:4 489:9 509:15 523:20 541:11, 14 552:4 588:21,23 590:16,17 591:7 606:5 622:10,12,20

applied 486:8 529:4

**apply** 477:12 533:1

appreciated 605:16

approach 521:14

**approval** 451:5 540:25

**approve** 464:4 503:17,23 560:10 592:16 595:24 618:1

**approved** 507:8 510:12 567:17 590:15,

18 591:2

**approves** 493:11 494:16 512:11 594:12 617:15

**approving** 617:15 618:1

approximate 489:6

approximately

489:10 509:24,25 577:13

apropos 452:18

**area** 488:2 524:8,15, 17 532:19 539:7 549:23 556:22,24 575:20 576:6 577:23 602:22 607:20

**areas** 487:18 526:12 542:1 552:17 558:8

**arguably** 613:10

**argue** 523:15 525:16 531:9 594:17

**argument** 534:12 555:12 622:17,19,25

arguments 622:22

arm 521:24

**arrearage** 556:2 615:2

arrearages 614:23

articles 616:16

asks 452:13 496:3

**aspects** 590:17

**assessment** 484:19 614:1

asset 531:4

assets 531:19

assisting 516:9

associate 474:4

**Association** 461:5 462:20

**assume** 498:3,8 581:3,8 582:2,5 583:1, 2,5,12,13

**assumes** 569:2,3

**assuming** 452:18 569:10

**assumption** 581:6 582:10

**assumptions** 522:19 581:21 583:16 601:6,8 602:21

assurance 611:25

assurances 540:9

Attached 547:1

attachment 547:2

**attempt** 578:8 584:21 595:20

attended 529:7

attention 617:6

**attorneys** 451:17 453:14

attractive 601:9

attributable 477:2

Auditing 469:11

**authority** 470:17 471:18,22

**availability** 545:20 546:4,10,15 547:19, 21,23 548:3,13,17,18 557:20,23

**average** 535:11,25 537:7,11 538:5 590:1 614:21

**avoid** 465:20 476:3 479:13 502:25 563:1

avoidance 476:25

**avoided** 475:24 476:8 477:4,13 479:8,10,12, 20 592:5

**aware** 495:9 521:3 524:18 536:2 539:6

549:8,22 551:24 562:20 564:12 565:3 568:13,24 569:7,13, 15,17 570:14,23 571:4,19,23 572:4 575:19 594:16,17 626:4

**axis** 552:24

В

**B-O-L-I-N** 468:22

back 459:23 466:10 510:18,19 513:7,13 524:20 528:16 532:17 539:23 551:23 558:17 573:19 577:6 586:2 590:21 594:7 597:17, 23 606:8 618:23 626:9

**bad** 487:21 561:7 589:14

balancing 592:8

bang 528:10 587:18

**Bank** 536:9,16

barriers 613:6

**base** 509:15,21 533:10 534:15

based 459:14 463:19 479:18 488:5 496:8 497:13 501:19 504:21, 22 505:10,11,14 511:21 522:21 525:17 535:17 540:16 574:11, 13 600:7

**basically** 529:8 589:18

**basis** 466:11 508:7 512:24,25 593:16,22 616:4

**bat** 476:3 605:25

**batteries** 551:19,20 601:25 606:14

**battery** 517:6 519:13 557:22,23 576:17,23

577:15,20 578:22 606:25 608:8.23.25

**Baumhefner** 563:22 565:8 566:9,13 572:10,24

Baumhefner's

557:13 558:25 564:13, 20 565:4,14 572:20

**bear** 452:18 470:2 556:2 580:13

bears 533:17

**begin** 451:18 495:11 564:24 574:8

**beginning** 565:14 569:8 572:12,17,24 595:21

begs 528:14

**behalf** 451:21 458:7 470:10 484:7 542:8

behold 529:17

beholder 552:11

**belief** 457:8 469:23 474:18 482:6 517:13 624:25

believes 596:24

**Bench** 507:4,5 508:8 595:22 600:21 601:13 618:22

**beneficial** 511:11,13

**benefit** 523:25 598:20

**benefits** 528:23 587:15

**bet** 616:7,9

BEVS 577:13 609:1

**big** 525:14 541:11 571:7 590:19 593:24, 25 610:20,21 611:6 615:24

**biggest** 531:13 561:18

**billed** 485:2 500:2

504:16,21,22

**billing** 487:3 505:16 506:1

**billion** 529:20 556:8 590:24

bills 535:21 556:14

**bit** 473:6 492:2 498:14 520:8 530:13 618:21

black 523:3

Black's 542:16

block 575:8

blowback 536:3

blue 575:4

blueprints 555:8

**board** 599:16

**boards** 563:4

**Bolin** 468:6,11,15,16, 21,23 469:5,8,12 470:1,13 472:2,25

book 535:8

**boring** 592:8

**borne** 534:13,20 535:15,21 555:3 599:14

**bottom** 490:21 609:10

**bounds** 532:2

**box** 523:3

**break** 513:5,7,22 573:8,10 621:3

breakdown 596:8

**breaks** 606:22

breather 513:13

**briefing** 492:11 626:7,17 627:5

**briefly** 464:10 466:14 478:25 517:2 549:8 598:18 613:23 617:1

**briefs** 618:18,19 626:16,23,25 627:1

bringing 599:22

broke 473:6

brought 589:7

**buck** 587:18

**bucket** 615:4

**bucks** 600:10

**budget** 487:16 488:7 589:24

**budgets** 487:18 589:18

**build** 511:13 529:22 530:1,7 534:14 540:9 597:9,16

**building** 459:1 477:15 563:4 597:11 610:23,24 611:8

buildout 523:13

**built** 540:3

**burn** 585:7

**buses** 549:16

**business** 485:8,13,19 486:24 500:17 504:10 505:18 508:18 548:7, 23 549:3,22 550:4 627:17

**businesses** 484:18 485:1

buyer 589:16

**buyers** 573:1

buying 602:4,7

C

**C-L-A-I-R-E** 455:25

**Caisley** 520:16,21 523:24 524:13 554:19 562:5

**Caisley's** 520:8 522:11 524:9,16

526:25 528:16 546:23

calculate 600:25

calculating 510:2

calculation 510:3 557:6

calculator 579:19

**calendar** 578:15 581:5 582:22 583:8

**call** 452:12 468:14 473:15 480:11 514:6 520:23 556:13 602:22

**called** 515:24 520:10 537:1 574:19 593:16 608:10

**calls** 455:18 556:12

**canary** 536:8

cannibalize 561:4

**cap** 466:2 530:7 600:19

capable 484:23 592:5

**capacity** 456:11 469:8 474:3 476:8 479:13 480:25 515:1

capita 520:15 552:18

**capital** 556:8 589:25 590:2

**captive** 556:9 563:6 598:3 616:9,18

**car** 523:15 528:12,14 556:5 597:7 599:7 600:11

**carbon** 610:18,20

**cars** 488:5 517:6 521:4 523:2,14 525:5, 12,16 528:9 532:1,25 556:6 561:8 568:20,23 570:19,21 586:11 602:7,17 606:15 607:7

**Carter** 453:18

Carville 536:21

case 451:4.9 458:1 464:13,22 465:6,23 470:24 471:1,11,15, 17,21 476:9 477:7,9, 13 479:11,20,23 484:14 487:4 488:10, 19,20 504:4,19 506:10 507:10 511:4 512:21 513:18 518:24,25 521:11 522:19 524:21, 23 525:11,21 526:3,17 530:15,21 533:20 535:11,19,23 538:4, 17,20 539:9 540:4,12, 24 541:15 542:13 546:24 547:11 551:5. 12 552:22 553:3 554:9,16 555:1,7 560:3 564:13 565:4 571:14 587:10 588:12 589:5 590:1 591:16 593:19 601:6 608:1 612:9 616:21 617:2 618:13

**cases** 464:11 529:13 536:15 617:22

**categorically** 540:25 541:9 556:3 589:22 591:5 610:1

categories 487:23

category 488:9 606:22 620:9

causation 511:19

**caused** 456:16 469:13 474:7 481:5 515:4

caveats 582:15 601:3

**CCN** 465:7 466:21 522:9 527:13 531:2 540:24 541:10 561:4

cease 560:1

**cell** 461:23

center 611:5 626:3

centered 529:8

certification 495:19

**chance** 543:22

**chances** 587:24,25

**change** 456:25 457:3, 6 488:3,7 492:9,19 517:3,10,15 597:3 626:11

**changed** 541:11

characteristics 609:18

characterize 559:23

characterized 572:22 617:4

**characterizes** 558:3, 20,24 559:14

**charge** 459:15 461:23 465:7 466:2,24 467:7 484:19 487:25 489:1,6 498:7 499:8,16 500:3, 9 504:12,14,18,20,21 505:4,5,6,9,10,14,21, 24 506:4,13 509:14 510:4,6,11 511:7 523:13 526:22 532:1 534:23 539:3 540:14 549:12 552:6,9,14 554:23 555:14 556:16 560:6 568:22 570:20 596:16,18 598:23 599:2,7,8 601:25 602:2 608:15 609:25 612:20 613:3 616:7

**charged** 484:24 498:5 549:16 593:12

Chargepoint 451:19, 21 460:9 467:19 472:12 478:15 490:1, 7,13 492:3,18 502:1,2, 5 507:25 510:14 530:21 531:14 542:8 553:3,8 573:20

## Chargepoint's

463:18 490:23 491:6 492:7,12 501:16,24 502:3,6 530:21 531:13 553:5 584:13,18,24 585:11 601:20 **charger** 491:1,2 492:4 494:25 495:6, 10,11,19 497:25 498:20,25 499:4,11, 13,18,20,22 501:25 502:3,4,7 534:10 585:22,24 586:6 598:22,23 601:21

**chargers** 486:11 491:23 492:14 493:5, 19 494:20 495:2,9,13, 15 500:3 511:13 539:7,11,15,25 540:8 555:16 585:12

**charges** 486:8 498:6 504:11,16 584:14 596:9

**charging** 458:21,24 463:4,20 465:10,11 484:18 485:1,8,14,19 486:4,25 488:6 489:4, 12 491:21 492:17 494:21 495:3.11 496:5,7,14,15,22,23, 24,25 497:6,8,15,20, 22,25 498:5,12,20 500:1,7 501:20 503:11 504:3,10,13 505:19, 22,24 506:6,12,16 508:18 509:4,14 510:3,20,25 511:6,8, 10,12,14 523:9 524:18 525:13,15,21 526:6, 12,13,14,19,23 527:25 528:4,18,21 530:14,16 531:9,15,17,25 532:25 534:8 540:3 547:16 548:7,15,23 549:3,23 550:3,5,9 551:17 552:18,25 558:7,9,10 559:1,3 560:2,5 561:8, 22 564:1 566:16,22 567:3,14,16,25 568:2, 10,15,17 570:16,18 571:9 572:25 586:6 591:11 593:8 594:2 596:10,11 599:5,12 600:14 601:24 602:1, 14 606:15,19 607:8,25 609:16,22,24 610:4,7

611:24 613:6 615:13

616:14.17

**Charles** 521:16 578:21 579:25

**chart** 576:16 580:21, 22

cheat 600:19

**check** 606:23 611:24 612:2 626:3

checking 502:8

**chief** 515:3

**chip** 521:3

**choose** 490:25 491:24

circuits 592:8

cite 522:7 566:9

**cited** 520:16 521:8 522:8,11 525:20 526:4,9 536:7,10 563:20 564:12 565:3 566:13 570:15 572:9 616:22

**cites** 566:9 569:18

citing 564:9,25

city 452:1 520:11,15 521:16 522:15 523:8 524:2 525:18 545:13 549:9,12 552:22 561:23 574:10,13 575:20 576:6 578:21, 25 579:1,4,10,21,22, 24 589:12 591:21 602:21,22 607:20

**Claire** 454:17 455:13, 18,25 456:7,15

**clarification** 463:12 483:2 519:15

clarified 502:1

clarifies 619:22

**clarify** 462:13 481:17 485:17 492:16,22 507:3 541:4 566:11 574:10 603:21 604:12, 22 608:17,21

clarifying 492:17

clarity 483:3

**class** 477:7,11 486:19 504:19 506:10 511:11, 12,13 541:18 553:16, 23 554:7

**classes** 477:10 511:22 535:9

clean 459:15 465:7 466:2,4,24 467:7 487:25 489:1,5 500:2, 9 509:14 510:4,6,11 523:13 526:21 534:23 539:3 540:14 552:6,9, 14 554:23 555:14 556:16 560:6 596:16, 18 608:6,15 612:20 613:3 616:7

**cleaner** 599:24

**clear** 465:11 486:17 492:10 498:11 526:11 541:23 558:6 564:17 574:22 579:22 582:1 609:4 625:16

clearest 616:12 clearing 460:23

click 580:9

Clizer 451:13 458:4,6, 7,8 459:22 466:14,15, 16,17 467:9,10 470:6, 8,9,10,12,14 471:24 475:4,6,8,10 478:5,6, 23 484:5,7,9 489:13 507:1,2,3,21,23 513:10,23,24 514:2,6, 19,20,23 515:16,21,23 516:5,18,23 517:21 518:10,14,18 519:16, 18,21 542:4,5 543:17 568:18,21 569:1,10, 22,23 581:14 595:13, 15,16,17 603:8,14,16 604:2 605:2,3,21,22, 24 612:12,25 613:1 618:6,10 619:9,11 620:20,21,23 621:9 622:4,23 623:13,14,22 625:4,5,9,20

Clizer's 552:20

**close** 522:16 529:20 531:10 533:25 559:5 592:15

**club** 454:1,3 460:4 467:11 472:7 478:9 489:19 553:12,14,21 563:9,12 569:17 571:14,19,23 572:2,4 604:21 609:5,7 610:12,17 611:7

**Club's** 572:6 610:13, 21 611:4

Club/nrdc 563:21 626:7

**coal** 536:8 599:23 611:2,6

**code** 592:2 596:21,23 600:19

codes 563:4

coding 597:12

**collect** 596:3,5 600:18

**collected** 510:21 594:8 595:23

**collecting** 510:17 594:20 596:2

**collection** 510:14 512:20

collective 529:19

**colloquy** 563:18 565:15 572:8,19

**Colorado** 589:10,12, 20 590:22 597:20,22

**Colorado's** 503:10 588:25

**combination** 529:18 590:25

**combined** 489:8 509:22.23

comfortable 540:7

**command** 530:16 531:2 561:19 616:18

comment 618:3

**comments** 488:12 536:14 552:20 626:8, 10

**commercial** 487:6, 17,24 496:5,13 500:1, 5,7,11,16 509:2 510:24 560:9 567:16, 20,24

commission 454:21 456:13 459:12 463:16 464:4,6,24 465:14 469:11 471:9,20 474:5 478:22 481:2 491:19 492:13 493:2,4,11 494:16 501:8 503:17, 19,22,24 504:2,7 507:11,12,18 510:20 512:11,13 523:11 526:6,7 527:23 539:3, 14 540:9,13,15,22,25 541:6,8,16 554:14 560:8 561:2 564:22 567:17 570:15 584:10, 11,16 585:9,14 590:11,13,15 591:13, 25 592:16,18 594:12, 14 595:23 612:5,14, 15,17,22 613:11,14,24 615:12 616:21 617:6, 14 620:12,14 621:3 622:11 625:22,25

#### Commissioner

454:13,14,15 472:19 488:13 539:25 541:7

# commissioners

460:21 472:18 501:4 541:7 584:8

Committee 592:2

common 495:12

Community 564:1

**companies** 465:9,12, 16 489:7 590:5 600:18

**company** 470:19 489:12 520:25 530:11 540:20 568:9 583:22 590:11 599:15 608:3 613:10 614:24 615:1 616:6,8 617:22 621:12 622:7

**company's** 503:3 506:3 545:13 547:25 548:20 586:24 588:20 622:10

**compare** 509:11 577:1 583:14

**compared** 479:23 520:11,15 556:18 561:19 577:3,21 615:4

comparison 479:22

compelling 555:12

**competition** 500:3,8, 13,15,16 530:17,19 531:1 541:2 613:7 615:14

competitor 500:18

complemented 540:15

**complete** 507:14 540:16 541:24 616:25

completed 453:13

completely 510:6

completeness 612:16

Complex 564:1

component 482:24

components 511:7

Comprehensive 590:6

computed 606:2

computer 603:22

concede 616:1

conceded 607:17

conceivably 531:16

concept 538:8 555:21

concern 487:22 493:24 496:3 532:3 537:16 561:18 563:1 593:25 622:15,17 626:4

**concerned** 475:24 541:16 603:1

**concerns** 492:16,20 531:22 536:7 585:20 625:2

**conclude** 487:20 513:18 627:22

**concluded** 618:11 627:24

**concludes** 595:2 618:13

**conclusion** 525:7 532:24 558:5 566:16 570:7 610:3,4 612:22 618:2

**conclusions** 479:15 526:2 593:2 617:23

conditioner 462:5

conditions 465:2,19

conducive 530:8

confer 619:23 620:2

confidence 557:21

**confidential** 456:17 469:14 474:8 481:6 482:10,18 483:2 517:23 621:21

confidentiality 482:23 621:20

configured 461:20

**confirm** 461:4 475:22 476:5,13 543:18 565:19 580:17

conflating 477:22

confusing 476:4

confusion 492:11

**connected** 530:4 551:19,20

**connection** 506:5 595:3 603:22

conscience 615:7

considerable 617:6

considerably 582:11

consideration

502:25 620:25

Considerations 563:25

**considered** 483:6 497:21

**consistent** 525:8 567:6 574:25 616:21

consolidated 451:7

constant 498:3,7,8

constantly 533:15

**constitute** 551:5,9,12

construct 540:8

construction 592:6,

consumed 551:22

**consumer** 453:20 554:12 555:20 557:21

contained 548:2

621:13

contemplate 624:1

**context** 452:24 477:6, 14 506:10 511:4 535:14 561:13 589:8

contingencies 494:4

**continue** 453:12

contradictory 478:2

contributing 457:11

contribution 470:16

**control** 523:11,14 525:18 530:16 531:2 561:19 616:19

controlled 523:23

controls 593:15

controversy 593:6

**conversation** 616:24 627:21

**cooking** 599:11

**cool** 602:13

cooperation 589:19

coordination 552:1

**copied** 543:8

**copies** 625:6

**copious** 523:8

**copy** 458:11 475:13 580:12 603:3

**correct** 456:20,23 457:7 458:19,22 459:9 460:19 462:8 468:6 469:17,23 470:15,19, 24,25 472:5 474:11,18 475:24 476:9,14 481:11 482:5 483:6 484:12,22 485:4,24 486:1,4,5,8,9 487:11, 14,15 488:23 490:11 493:11 494:18,19 514:3 517:12 518:14 532:19,20 534:5 539:11 540:2,5,6,10, 11 541:18,19 544:6 548:4 549:21 550:6 556:18,19,25 557:1,4, 10,11 562:25 563:23 566:2,6,14,24 567:19, 25 568:3,11 569:9 570:4 575:21 576:6, 24,25 577:19 578:1, 11,12,18 579:3 581:4, 10.20 582:8.12.16 605:8 608:13,18,25 609:1 621:9

**corrected** 519:1 576:19

correcting 518:15

**correction** 518:13 605:10

**corrections** 481:24, 25 482:5

**correctly** 490:10 502:15 523:1 525:3 585:16 601:5 606:2 611:1

**correlation** 471:4,5,6 560:4,5

**corridor** 465:18 466:3,24 487:24,25 564:1

**corridors** 465:24 568:3

**cost** 458:20 459:1,13 476:9,25 477:4,6,7,10, 11,13 479:10,12 488:22,24 489:1,3,4 496:8 504:19 506:10 509:7 510:7,11 511:5, 6,19,21,22 512:18 531:5,7 555:21 561:15,25 587:14 590:2 592:3,7,9 597:8, 18 598:2 599:17 607:25 613:5 614:15

cost-benefit 617:11

cost-effective 525:10

cost-effectiveness 488:3.8 587:17

**costs** 459:6,16,17 470:20 475:24 477:2, 10 479:8,13,20 504:17 511:6,20 523:13 535:15,20 536:7,10 541:17 556:2,7 587:15 588:2 590:24 596:8 599:13,16 611:9

**couch** 613:14

**Council** 453:24 553:19

**counsel** 451:12,14 456:5 457:14,25 458:1 469:1,2 470:4,11 473:4,23 475:2,9 478:22 479:4 480:20 484:4,8 490:7,13 507:15 508:11 509:7 510:13 512:25 513:21 514:18,21 515:3 522:24 543:8,11 544:19 554:11 558:4, 12,15 562:12 569:20 584:13 590:13 595:11, 18 602:20 603:5 606:1 609:5,7 611:16 612:8 613:22 614:5 616:24 617:11 619:17 623:10, 12.19 624:4.7

**Counsel's** 570:1 585:19

**count** 605:4 606:25 608:13

**counter** 521:5 527:19 607:13 611:3,12 614:24

counteracting 593:20

**counties** 517:4,5 519:3 532:22 579:23

**country** 552:14

**counts** 580:22

**county** 520:20 521:16,17 578:21 579:24,25 606:22

**couple** 455:9 499:25 501:11 535:6 589:7 593:7 606:12 607:3,18

**court** 513:6 514:20 516:7,10 541:16 627:16

cover 531:7

**covered** 554:21

**covering** 561:15,25 607:25

**COVID** 614:25

**COVID-19** 589:17

create 487:2 488:6

created 538:12

**creates** 613:6

creating 531:25

credits 614:20

criticized 622:6

critique 520:12

**cross** 457:13 458:3 470:1 472:21 474:21 478:13,15 484:2 607:1 618:8

#### cross-examination

458:2,8 459:25 470:4, 12 475:3,10 478:7,10, 18 484:9 490:8 508:6, 10 519:22,24 520:3 532:13 541:22 542:16 563:15 569:19 573:14 574:4 585:21 603:11 604:5 612:21

## cross-examine

542:22,23 543:2

crossed 522:25

crossing 467:2

CSR 456:24

**curb** 610:18

**current** 505:16,17 509:2 534:9 541:6 544:8 549:16,19 550:11,22 552:9,14 555:14,16 567:8,14 588:20,22 600:17 618:18 626:17

curtailed 626:18

customer 488:23 490:24 496:13 500:1, 11 504:23,24 505:24 506:8,17 509:3,20 510:16 524:13 527:14 528:13 534:19 537:4, 7,11,15 538:6 553:16 554:7,16 560:16 600:22 621:13,25

**customer's** 505:1 568:7

customers 484:25

485:7,8 486:13,24 491:21,23 492:3,14 493:4,19 495:9 496:8 500:6,8,12,16 502:20, 25 503:1,7 509:25 510:1,22,23 511:23 536:3 537:16 548:15, 23 549:23,24 550:2,3, 8,9,10,11,23 553:9,15, 16,23 554:5,6,10 556:1,10 557:9 561:6, 8 568:6 588:15,17 589:23 591:2,10 598:3,22 600:8 614:12,18

customers' 535:21

cut 482:15 537:23

**Cycle** 479:15,18

D

d/b/a 451:5

daily 616:4

data 464:6 486:12,13 496:7,15,23 497:1 498:11,12 499:10 500:17 503:18,24 504:5 510:14,17,20, 21,25 511:1,2,4,5 512:20 520:10 521:6 522:12 523:5 535:6,10 574:24 577:24 578:7 579:11 580:3 581:3 582:21 583:5,19,20,23 592:17 593:2 594:4,7, 20 595:23 596:2,3,5, 12,17 603:1 607:12 608:4,22 626:3

Datacenter 603:2

**date** 479:21 485:18,21 560:7 566:5 591:15 606:6 618:14 627:6, 10,11

**dates** 505:14

**David** 453:21 532:14 543:15 544:3,14,15 545:11

**day** 515:22,25 536:22 556:11,12 619:22 627:17,23

**days** 501:11 524:7 588:7 593:7 618:17,24 626:10 627:3,5,9

**DC** 497:8,19,22 498:20,25 499:4 534:10 564:1

**DCFC** 534:8 567:5,13

**deal** 602:7 614:23 626:17 627:11

dealerships 524:18

dealt 595:23

**December** 580:23 607:6 608:16

**decided** 471:1 621:3 626:11

decision 540:8

**decisional** 539:2 613:19,22

decisions 614:1

decrease 533:12

dedicate 465:7

dedicated 545:6

deep 590:9

**Defense** 453:24 553:19

defining 485:6

delay 544:2

demand 504:11,12, 14,16,18,22,24 505:1, 2,4,5,6,9,10,12,13,15, 21 506:1,7,18,19 511:7 567:4 599:19

demand-side 477:5

demolition 592:7

demonstrated 479:19 526:14 559:3

**Denver** 589:13

591:21

**Denver's** 589:13

**department** 452:16 456:14 469:11 481:3 520:18,19 521:6,7 578:7,15 593:8 605:6 606:10,21 607:2,4,5 608:23

**depending** 488:1 493:22 587:13

**depends** 493:25 496:17 499:21 552:10

depleted 557:23

deployment 497:22

depreciation 533:10,

depth 609:14

**describe** 517:2 544:24 545:12 547:10 548:11 617:1

describes 504:11

description 597:6

**design** 462:21,23 481:2 485:24,25 494:1 506:12 511:8 560:18 564:2

designated 625:17

designation 545:3

**designed** 494:7 506:14 562:21 587:11 593:21

designs 463:23 466:7

**detail** 495:1,22 504:6 512:9 540:21 622:7

details 621:12

determinants 487:3

determination

470:24 471:10 539:3, 14,24

**determine** 511:5 626:9

determines 523:2

**develop** 459:11 486:15 496:8 506:11 511:6.22

**developer** 562:3,6, 16,25 563:2 596:24 597:4 611:17,20,25 612:6 615:25 616:2

**developers** 562:7,9, 19,22

**development** 458:17 511:16

device 551:21

dialogue 592:25

**Diana** 453:18

Dictionary 542:16

diesel 588:1 599:22

**difference** 461:19 477:4 577:24 583:18, 22 608:23 614:8

**differences** 487:2 591:10

differential 488:17 505:14 587:13

differentiate 462:3

differently 492:2

**difficult** 465:13 488:7 521:12 555:25 565:21 625:21

**difficulty** 469:4 518:25

**dinging** 603:22

direct 456:9 464:1 469:7 471:3 474:1 478:2 480:23 491:20 492:13 504:2,7 514:23 526:10 542:19,24 546:23 547:3 560:3 565:13 567:14 572:12 624:16 627:14

**directed** 502:5 510:19

**direction** 463:15 530:5

directive 598:10

directly 612:19 614:5

disagree 592:9

disappointed 594:19

disconnected 624:13

disconnects 614:24

discriminating 503:1

discuss 597:21 627:1

**discussed** 588:7 603:11 604:4 609:6 612:20 614:4 615:16 621:9

**discussion** 470:16 476:1 488:21 500:22 507:14 510:13 530:13 539:2 540:12 555:6 603:1 609:5,8 619:5

**discussions** 597:14 606:1

disingenuous 613:10

dispute 573:1,4

distinct 606:15

distinction 462:6

**distinguish** 498:1 499:2,13,17

distinguished 505:4

**distribution** 459:6 529:22 530:2 547:25 548:21 587:25 600:18

dive 590:9

divers 568:16

**DNR's** 465:21

**docket** 526:8 527:18, 21 529:18 541:3,9 552:19,20 560:3 566:2 593:6 610:7,13 617:25

**dockets** 526:6 527:20 536:14 613:17 617:6

doctrine 542:25

document 457:7 474:17 482:4 507:13 516:3 543:8 575:25 604:21 605:16 621:10, 14

documents 621:21

dollar 555:23

dollars 523:9 525:6 531:21 534:3,4,11,15 555:25 556:10 589:23 593:25 594:18 598:1 616:10

door 623:3

doubled 520:22

download 580:14

**DR'D** 522:10

**drafted** 529:24 599:24

drafting 484:13

drama 626:20

draw 593:2 610:3,4

dream 574:6

**drive** 534:18

driven 568:7

driver 591:20 602:1

**drivers** 494:21 500:13 524:1 557:22 570:17

**drives** 534:19

**driving** 526:15,19 536:22 537:11 559:4 566:17,23

drop 523:12 615:4

dropdead 627:10

**dryer** 461:17,24 462:4 463:7

**DSM** 476:24

due 536:3 618:18.19

**duly** 456:7 469:5 473:24 480:21 514:22

**Dunbar** 451:20,21,22 460:11 467:20 472:13 478:16 490:3,6,8,13, 16,17 500:21 508:2 541:20 542:7,25 573:22

**duration** 498:6 499:8, 16

dwellings 567:16,21

Ε

**E-U-B-A-N-K-S** 456:1

earlier 486:24 487:23 492:6 502:1,5 507:16 510:19 518:11,12 521:21 534:22 542:11 556:17 566:15 588:7, 12 616:22

earning 561:14

**earnings** 533:7,11 534:18

**ease** 531:22

easier 581:10 582:3

**easiest** 601:22

**easily** 593:7 599:5 607:3

**east** 481:13,14,23 524:18 614:13

**easy** 499:1,3 606:13, 23 612:5

**echo** 490:16

economic 590:23

economical 592:10

economist 515:3

economy 536:12,21

educated 522:2

**education** 621:13 622:8

education/outreach 622:1

effect 506:2 538:19

effected 618:20

**effective** 494:18 502:22 505:7 544:5 597:8 627:9

effectively 476:2,18 523:10,17 524:6 525:4 531:4,10 532:4 534:10 540:22 541:14 552:22 555:2 560:7 561:14 591:17,19 596:23,24 599:15 600:16 601:2 611:25 616:8 621:1

effects 533:10,14

**efficiency** 477:16 478:1

efficient 586:21 616:17

**EFIS** 545:5 621:19,22 625:7,10,11,16,18,23

**EIA** 535:10

elapses 505:2

**elect** 538:22

elected 465:20 590:7

**electric** 484:18,19,22 485:8,9,14 486:3 488:6 489:11 517:6,8 521:3,24,25 522:1,3 524:7,18 525:16 526:5.8.15 528:11 532:18,21,23 535:8 537:3 539:10 540:22 545:21,24 546:6,11, 16,18,21 547:7,10,17, 22,24 548:3,4,15,19, 25 549:2,4,10,14,15, 19,24 550:3,8 551:19 552:19,23 556:21,24 557:5,10,22 566:20 567:10 570:17 573:1 576:5,8,17 577:15

580:22 581:1,2,5,8,11, 16,17,22 582:2,6,8,12, 22 583:1,2,6,10 584:1 586:12 589:16 590:6 600:14 602:11 606:11 607:20 608:10 609:12 613:5

electrical 461:4 462:19 463:4,16,20 464:5,11 486:8 501:8 526:5 584:12 585:10 592:4,5,16 598:12

**electricity** 547:16 548:14 606:18

**electrification** 451:6 471:15,21 477:23 478:1 485:15,17 488:24 507:9 540:23 574:18 575:5 622:1

Electrify 465:20

electrifying 609:19

**elects** 538:15

**element** 610:10

eligible 557:2

**Elliott** 529:1,17 530:8 533:17 616:24 617:1,3

**EM&V** 512:14,17,22 594:15,19

**email** 455:1 515:13 516:11 603:3

emission 593:15.21

emission-free 589:11

**emissions** 587:25 599:17 610:19

**emphasis** 487:25 589:12

emphasize 555:19

emphasized 540:15

emphasizes 536:20

**Empire** 488:18 527:18,21 537:9 541:13 555:7 592:23

**empirical** 521:5 523:5 583:23 593:2,12 605:11 607:9 608:2 611:13

**employ** 541:6

**employed** 456:10,12 469:9,10 474:2 480:24 481:1 514:25 515:2

**encourage** 563:3 611:23

end 454:23 455:5 511:9 536:22 555:11 556:11 578:15 581:5, 11 582:6,22 586:21 597:17 599:23 609:22 618:8 621:1 624:14 627:17

endeavors 618:22

ended 614:25

energy 453:19 477:16 478:1 511:21 520:19 521:7 530:2 536:8 551:12,22 554:12 578:15 603:1 607:2 611:5,16 614:12

**Energy's** 606:10 607:5

engage 600:4

engineer 474:4

Engineering 456:13

enrolling 591:9

**ensure** 465:3

**enter** 452:14 623:25 624:15 625:13

**entered** 483:15 620:11

**entice** 597:3

**entire** 476:12 507:17 620:15,16

entirety 496:9

**entitle** 566:20

**entitled** 547:18 548:6

563:25 575:4

**entity** 537:1

entries 451:8 613:7

environment 602:12

**environmental** 553:13,17 590:12

610:16

environmentalist 611:8

environmentalists 610:18

envision 461:21

**EPRI** 521:8,9,22,24 522:4,7,8,11,21 524:20,21 606:5 607:21

**EPRI's** 606:9

**Epson** 522:1 535:7

equals 519:13

equipment 602:6

equitable 615:8

**equivalent** 558:10 585:5

**ER-2016-0285** 541:4 612:10,18

erosion 538:5

errata 515:10,18,21 516:24 517:3,25 518:13,15 532:17 556:23 576:4,19 578:25

espoused 593:17

essentially 505:17

**established** 487:3 513:22

**estimate** 459:8 486:11,12,18 510:8 576:10 579:20

**estimated** 575:9,11, 22 577:12 606:5

**estimates** 458:20 459:14

**estimating** 575:20 576:5,7

et al 563:25

**ET-2016-0246** 564:6 566:2,21 568:15

ET-2018-0132

464:11,22 471:15 507:10 564:6

ET-2021-0151 451:8

ET-2021-0269 451:7

ethical 598:5

Eubanks 454:17 455:13,16,19,20,25 456:2,7,10,15 457:13 458:2,9 460:23 461:3 466:18 468:3

**Europe** 531:15 536:9,

**EV** 485:14,19 486:25 489:4 492:17 494:21 495:19 496:6,7,14,15, 21,25 497:6,14 498:4, 12 500:1,6,12 501:20 503:17,23 504:3,10 505:18,24 509:4,14 510:25 511:8,11,13,14 520:11,23 521:2 523:6,7,9,16 524:8 525:1,5,12,13,15,19, 20 526:19,24 527:13, 15,25 528:4,9,14 530:9,11,16 531:12 532:24,25 534:23 548:7,23 549:3 550:4 551:17 552:18,25 556:6 559:1 560:5 561:8 566:17,23 567:16 575:9,20 577:4,10 578:14,16 579:5 584:17 585:15 586:6 591:20 592:4 593:5 597:7 599:12 600:11 601:21 602:1,6 604:24 605:4,5 606:15,19,25 607:8

609:16,22 610:4,7 613:14,15 614:9,16,20 616:10

evaluated 512:21

evaluating 523:5

**evaluation** 512:13 525:2 594:14

**event** 494:15 585:9, 14 595:9 620:5

**Evergy** 451:4,5,23 458:21 459:10 460:13 461:15 465:3 466:1.20 467:21 470:22 472:14 475:14 477:22 478:17 481:12,13,14,15,22,23 484:17 485:3 486:2 487:1,7 488:15 489:7, 12 490:24 491:20 492:13 494:6 496:6,14 500:11,24 508:25 509:20,22 512:6 517:5,8 520:22 521:19 522:7 523:12,16 525:8 528:7 529:2,4,9,18 532:19,25 534:14 535:10,12,13 537:6 538:20,22 539:6,9,13, 24 540:3,7,14,19 543:15 544:20 546:21 549:13 553:9,15,23 554:5,9 556:24 561:23 563:3 571:21 573:24 574:12,18,19 575:9,19 576:9 577:7,9,20,25 579:23 582:4 583:20 588:9 593:23 596:1, 13,14,15 597:15 602:20 603:6 606:2,4 607:16 611:4 613:24 614:9,24 617:5,8,9 620:24 623:7

Evergy's 459:14 465:6,23 484:14,23,24 486:22 487:3 488:4, 19,25 494:17 496:4 500:2,6,9 504:9 505:6 522:16,25 535:2,5,17, 24 537:11,16 538:5,17 539:2 543:13 544:8,17 547:10 549:23 550:21 552:13 554:23 567:15, 24 614:6 621:25

**everybody's** 536:23 599:10

**EVGO** 530:22

evidence 455:4 482:13 483:10,12,18, 20 518:3,6,8 519:20 525:17 530:4 550:17 551:2 569:2,3,25 588:13 603:15 604:8 605:18,20 606:7 608:2 611:13 619:5,25 620:7 621:19 622:3 623:8

**EVS** 520:14 526:8 574:9,13 577:11 579:1,21 580:23 581:13 593:12 602:21 615:6 618:3

**EVSE** 567:5,9

exacerbated 614:16

**exact** 519:10 586:19 610:15

exaggerating 616:5

**examination** 456:9 466:17 469:7 474:1 479:3 480:23 506:24 508:16 514:23 542:18, 24 558:17 595:16

**examine** 593:15,22

examiner 542:19

examples 549:7

exceeded 590:24

**Excel** 580:14 625:22, 23

excellent 625:14

exception 619:12

**excess** 520:16,17

exclusively 610:8

**excuse** 541:20

execution 471:11

executive 589:10

exhibit 456:17 457:18
469:14 474:8,22,24
481:6,7 482:14,16,18
483:3,6,9,11,14,16,17,
19 491:7,12 515:5,14,
18 516:3,5,6,12,13,17
517:22,24,25 519:1,8
543:18 545:1,2,12
550:15,16,20,24 551:1
565:8 604:7,10
605:18,19 619:4,7
620:24 621:9,14,23
622:3,5,9,11,15,18,19,
21,24 623:5,7 624:15
625:12,17,18

exhibits 454:25 455:1,3 482:9,12,22, 24 516:16,21 518:2,5, 7,11,12 519:16 619:2, 3,15,20,24 621:17,18 623:10,11,25 624:2,19 625:1.6

**exist** 529:22 586:15 605:12

**existed** 534:12

existence 569:23

existing 484:22,24 508:21,25 509:1,8 546:21 547:25 548:20 561:4 586:25 596:2 611:12 613:7

exists 586:22

**expand** 539:10

**expansion** 466:21,22 467:7 510:11 539:4 552:5,8

**expect** 533:24 607:6

expedite 604:5

expense 489:9

**expenses** 590:3 592:7

**expensive** 589:22 597:25

**experience** 459:15 512:16 571:11 602:15

**expert** 497:2 583:25 604:24

**explain** 469:8 504:13 521:22 522:23 528:21 529:3 544:8 551:14 586:9 598:18

explained 607:4

**explanation** 479:16 605:15

explanations 619:7

exploration 591:9

explore 555:5

express 587:6

expressed 610:21

extension 627:2

extensions 459:4

**extensive** 526:11 558:7

**extent** 459:17 554:12 555:7 593:11 596:1,16 597:15 618:20 622:9

**eye** 552:10

# F

face 562:10 598:4

**faces** 531:14

facets 590:15

**facilities** 459:14 485:1 504:16,18,20,21 505:24 548:1,21

**facility** 504:12,14,15, 20 505:4,21 506:18

fact 479:19 492:3 495:8 508:9 523:9 528:3 530:3,4 531:14, 20 532:21 534:17 536:6 541:12,15 549:13 550:4 552:18 555:16 560:23 564:21 569:11,24 597:13 607:24 611:4 613:15, 16 616:16 622:6

**factor** 536:23 537:10 556:15

factors 524:3

facts 569:2,3,14

**fail** 561:19

failing 471:9 622:7

**fails** 527:12

fair 462:25 465:17 484:19 492:1,12 493:2,21 494:5,11 500:20 503:16 506:21 527:15 614:1

**fairly** 486:16 609:5

familiar 460:24 461:2, 22 462:1 466:7 471:14,16 494:24 495:1,4,12,14,18,22 503:14,15 512:5,9 524:16 525:25 533:3 535:1 536:9 537:1 538:8,11 543:13 544:16 548:9 557:25 559:7,10 562:2 564:2, 21 566:13 570:6 588:6,25 594:11

farmed 525:9

**farther** 525:17

**fast** 497:8,19,22 498:20,25 499:4 531:14 534:8,10 564:1 567:14 569:12

fast-forward 555:12

**fastest** 531:25

**FC** 534:10

FCC 531:13

**fear** 536:3 541:1 557:21

feat 586:19

**features** 505:16 511:11

**federal** 467:7 531:20 533:25 534:4,11 555:10 560:1 593:25 610:2

fee 522:4,5

**feel** 494:2 500:15 582:13

**figures** 510:2

**file** 451:6,7 580:14 619:23 621:21 625:6, 23

filed 457:25 486:23 487:18 504:3 507:9 551:13,14,18 552:20 560:3 564:10,25 571:2 574:23 621:19 625:22, 23

**filing** 531:13 568:5 574:18 575:1

**Final** 562:2

**finally** 471:14 488:21 530:13 537:19 546:17

find 503:7 511:20 529:21 560:4 607:2 616:15 626:12

finding 503:6

**fine** 490:15 495:17 497:3 500:20 545:8

**finished** 619:13

**Finland** 616:13

**firing** 588:1

firm 617:3,4

Fischer 451:24 460:15,16,17,19 467:22 472:15 478:19 501:1 539:17,20 543:23,25 544:5 574:1,4,6 581:19 582:18 584:4 597:10 604:11,12,23 606:1,2, 4,8 607:11 608:25 621:7,8 623:15,21

**Fischer's** 608:12

**five-month** 566:15 **five-year** 470:20,23

fix 624:13

**fixed** 556:13

fixed-income 536:24

flawed 586:11

fleets 484:19

flip 497:4

flowed 588:2

fly 507:16

flying 599:10

**focus** 488:2 530:19 535:6

focused 567:4

**folks** 508:4,5 619:3

follow 562:14

**follow-up** 467:11

**food** 599:11

**foot** 615:2

**footnote** 563:21 564:13 565:4,6,7,18, 23,24 566:5 578:6 580:2 581:3 582:21 604:13 605:6

footnotes 565:22

**footprint** 521:17 579:24

forecast 605:13

**forecasting** 584:1 604:24

forecasts 605:10

forefront 602:25

forget 597:9 621:18

**Form** 535:10

**format** 469:14 474:9 481:8 482:19

**formats** 483:4

forms 456:18

forward 455:12 489:4 527:22 529:7 532:3 543:21 555:5,8,13 560:2 561:2,21 562:1 593:3 597:15 602:3,8 609:19 613:17 616:11,

fossil 600:17

fouled 453:8

found 512:17 526:21

**foundation** 516:19 536:6 603:25 604:3

France 536:13

Frankfurt 563:25

**frankly** 486:11

free 560:11,14,15,19 562:8,17,23 563:1 586:4,8 601:14,19 602:9 611:18,21 612:1

freeloaders 585:20

**Friday** 515:22

**friendly** 541:22

front 458:12 475:14 491:8 523:11 526:6,9 527:1 545:5 566:2 590:11 591:6 621:16, 24

frozen 509:3

fruitful 527:25

fruition 522:14

**fuel** 536:7,10 590:24 600:17 603:2

**full** 468:19 473:18 477:11 480:14 514:12 599:21

fully 506:11 612:21

functionalities 495:12

**functionality** 494:25 495:2.5

**fundamental** 574:9 583:18,21 586:10

**funded** 591:15

**funding** 467:7 488:1 534:1 560:1 591:23 610:2

**funds** 618:2

**future** 511:16 521:11 531:11 552:3 592:23 601:6

G

**G-E-O-F-F** 514:14

**gained** 507:7 512:19

**gaining** 512:20

game 530:25 561:1

gangbusters 521:1

garage 558:11 599:8

garages 592:6

garbage 585:7

garnered 617:5

**gas** 534:7,10 558:11 588:1 599:22 609:24

**gas-powered** 568:19 570:19

**gasoline** 571:11 606:16,18

gauge 535:7

gave 560:9

**general** 477:7 486:2 505:17 544:21,22 545:14,15 546:1,8,12 549:16 550:11 553:4, 12,20 613:2

generally 495:14 504:19 535:1 538:11 540:22 543:12 544:16 550:22 589:3

generate 606:18

generated 486:20

generation 561:17 599:18,20 600:17

**generous** 523:25 587:8

**gentlemen** 544:11 627:21

**Geoff** 514:6,13,22 517:23,24 529:10 544:18 573:14,16 605:7 607:18

geography 589:14

**give** 476:15 505:8 512:16 547:12 556:5 585:6 597:2 611:7 612:6,7 618:8

**giving** 455:6 528:8,13 533:9,14 555:10 560:19 561:7 601:11 615:5

**glad** 574:7

glancing 497:18

**goal** 528:15 530:6,9 563:5 599:23

good 451:20 453:21, 23,25 454:6,15 458:9, 10 461:16 470:13,14 475:11,12 484:10,11 485:24 490:9,12 520:4,5 521:19 522:10 525:5,6 532:14,16 563:16,17 574:5,7 583:24 585:5 587:17 588:3 595:18,19 610:3 611:13 614:22 615:7 618:3 622:17 626:25 627:1,23

**Google** 616:15

gosh 562:9

**government** 531:20 533:25 555:10 560:1 589:20 605:11 607:14

governments 607:14

**Governor's** 598:11

11,17,23 454:2,5,8,11, 15 455:15,20,23 456:2,5 457:14,18,21, 24 458:5 459:23 460:3,7,9,12,17,20,22 466:9,16 467:10,13, 16,18,21,24 468:2,5,8, 12,16,19,23 469:1 470:2,7,9 472:1,4,6,9, 12,14,17,20,24 473:2, 7,10,13,17,20,23 474:22 475:1,6 478:6, 9,13,15,17,21 479:1 480:1,5,8,13,17,20 482:14,21 483:5,8,13, 16,22,24 484:3,6 489:15,19,23 490:1,4, 15 500:24 501:3,6 506:23 507:2,15,22,25 508:3,13 512:1,4,23

**Graham** 451:2.15.20.

22 452:2,7,23 453:2,5,

508.5,13 512.1,4,23 513:3,12,16,20,25 514:4,8,11,15,18 515:20 516:2,7,20 518:4,9,17,19,24 519:6,10,14,19,23 520:2 532:10 537:20, 23 542:10 543:3 544:11,12 545:4,8 550:18,24 558:12,13, 15 559:18 562:12 563:9,13 568:25

563:9,13 568:25 569:3,6,13,21 570:1,9 573:7,12,13,18,24 574:3 581:18 584:7,9 595:1,8,14 603:12,20 604:9,16,20 605:2,17, 21 612:24 618:9,12 619:10,14 620:22 621:5,16 622:16 623:1,9,16,19,24 624:6,9,18,21 625:8, 13 626:2,12 627:18,20

**Graham's** 567:6

graphic 575:4

gravitating 609:21

**great** 490:12 491:18 499:23 530:23,24 540:21 589:6 591:22 **greater** 504:18 522:15 523:8 524:8, 14,15,16 600:11 602:22 607:20

green 575:8

grew 568:20 570:19

grid 551:19,21,24

**group** 453:20 523:11, 23 525:18 554:12 591:9,10 598:3 616:24

**groups** 590:12

guess 461:16 476:23 488:6 509:6 522:2 551:16 552:10 566:15 574:8 578:8 582:14 583:9,25 585:7 591:1 593:24 594:5,8 596:4, 14,15 604:2 616:1 622:23

**guidance** 613:24,25

**guys** 574:23 624:12 626:22

gymnastics 582:13

#### Н

**half** 520:23 577:25 607:23 615:2

**Halso** 563:11,14,15, 17 565:9,21 568:19,22 569:5,9,16 570:4,5,11, 12 573:5 604:20 605:14 626:6

**hand** 456:3 462:20,21 468:24 473:21 480:18 514:16 525:11 619:3

handful 552:17 596:6

**handle** 516:16

**handy** 491:7

**happen** 525:4 552:3 574:17

happening 536:18

hard 499:17 580:12

harder 499:13

**hardwire** 491:23 584:14

hardwiring 585:12

harm 588:3

hash 452:13,14

hats 614:22

**head** 462:16 522:2 528:10 580:7

heads 455:6

hear 455:21,22 467:19 468:17 501:9, 14 519:15 520:7 528:17,20 539:18 550:18 619:18 623:15, 23 624:5,9,10,11,12

**heard** 521:10 539:1 574:12 586:2,4 588:11 601:4 604:17,23

hearing 451:3 454:12,19,24 455:2,5 483:9 488:14 507:16 512:7,9 518:5 519:19 521:10 529:6 542:12 550:24 588:7 604:18 609:7 614:25 615:4 618:15 619:18 621:1,4 622:13 623:20 626:14, 20 627:22,24

**hearings** 536:15

heavily 477:8

**heck** 531:6 555:25

heed 521:21

helped 462:17

**helping** 511:13 530:10

helps 511:17,22

herring 612:4

**HEV** 608:10

high 476:4 504:24

510:9 522:13 536:3 567:5 590:18

higher 505:1 535:22

**highest** 504:22 505:10,12 506:7 556:2

**highly** 561:1 613:10

**highway** 465:18,24, 25 466:2,24 487:9,24, 25 568:3

**hinder** 471:11 530:17 615:13

**hit** 452:13,14 589:17 598:11

**hitting** 522:17

**hold** 457:10 547:12 617:5

holistically 587:11

**Holsman** 454:13,14 472:19

home 461:18 463:8 495:10 526:13,23 558:9,10,11 562:6,7 567:4 568:10 572:25 584:14 585:12 599:7, 10,19 602:2,14 606:24 609:25

**homes** 567:19,21,23

**honestly** 555:8 596:6 612:4

**honor** 451:13 453:21, 25 455:14,18 457:10 458:4 459:22 460:2,5 466:14 468:1,7,14 469:25 470:6.8 471:25 472:3,8,11,16,19,23 473:12,15 474:20 475:4 478:8,11 480:7 482:8 483:7,23 484:5 489:17,22 490:3 500:23 501:2 507:1,24 508:12 513:2,10,19 514:10,19 515:16 517:21 518:22 519:4,9 520:1 532:12 537:22 541:20 542:3,9 543:5

544:25 545:7 550:14 563:14 568:18,21 569:9,16 570:4,11 573:6,16,22 584:21 586:2 588:10,24 594:25 595:13 604:2 605:22 612:12 618:6 619:9 620:20 622:4 624:4 625:5 626:6

hooked 463:9 606:19

**hope** 543:8 597:17

hostility 542:17

hotspots 567:4

**hour** 511:21 513:6 611:24

**hourly** 511:5,6,20

**hours** 494:22 495:11 498:5 526:19 552:2 599:6 626:23

house 586:25

household 614:21

households 588:18

**housekeeping** 455:8 457:22

**huge** 526:18 536:7 552:24 610:8

**hundred** 531:21 607:3

**hundreds** 526:19

hurt 530:18 599:4

**hybrid** 581:16,22 582:7,8,12 606:11 607:1 608:10

**hybrids** 580:6 581:1, 9,13 583:3,10,11,19 606:14

hypothetical 497:17 498:2,8 499:24 584:11,16 ı

i.e. 498:25 523:12

**ICC** 592:2

**ICF** 524:24 525:3 617:11,24

Idaho 525:21 526:4,9, 16,18,20 527:6,8 557:19 558:3,20,24 563:19 564:16,19 565:11 566:4 570:14, 23

**idea** 530:6,20 555:11 593:17 600:3 613:13

identified 458:21,23 465:8 466:20,23 467:3 485:20 517:5 550:21 592:3 603:19 604:3 605:4,6 606:3 608:6

**identify** 458:25 490:4 515:10 544:12

idle 591:17

**Illinois** 523:25 524:1, 5,12,15,17

imagination 522:15

immediately 548:16

**impact** 486:19 488:7 506:15 524:2 536:11, 23 560:22 590:25 614:16

impacted 524:8

impacting 594:4

**impacts** 486:23

implementation 476:24 477:5

**implore** 591:13 617:21

imply 613:11

implying 559:1

importance 498:4

**important** 511:15 535:14 589:8 593:4,13 602:12 610:19

**impose** 512:13 594:14

**improve** 494:11 616:3

improvement 493:19,21 494:6,8

588:22

improves 533:6

**in-service** 538:9,23

inaccurate 613:10

inadvertently 572:14

inappropriately 477:21.23

**incent** 488:6

incentive 506:20 534:14 589:16 591:2

incentives 487:7 489:4

incentivize 504:13 505:22 506:15 598:21

incentivizes 506:15

inclination 626:12 627:13

inclined 626:8

include 488:4,25 489:5,8 510:3 522:18 603:3 625:10

included 454:12 459:7,14 470:16 504:17 520:18 521:16 535:21 581:1 592:6

includes 487:7 496:18 580:5

including 526:6

income 556:14 614:23

incorrect 519:2

increase 510:7 528:18,22 530:9,10 598:23 599:16,17 617:8

increased 532:23

**increases** 477:1 588:1

increasing 533:7 587:25 598:1 599:9,13 600:17 611:10 617:7

incremental 477:2,

indicating 536:3

indifferent 585:8

individual 609:14

**induce** 525:15 526:24 616:10

**induced** 523:14,15 528:18 529:1,3

**induces** 525:12 530:25

inductive 616:14

industries 522:6

industrious 536:24

ineffective 597:18

inequitable 556:4 inevitably 597:18

inferior 602:15

**infinitely** 552:16 597:8

inform 589:4

information 457:6 459:10 464:8 469:22 474:17 482:4 486:22 496:5,24 504:1 507:7 511:15 512:8,18,19 542:14 559:7 576:23 592:20 593:9 594:8 605:5 606:20

infrastructure 526:12 532:5 557:20, 24 558:8 564:14 566:20 567:3 568:16 570:16 592:5,10

inherent 541:10

initial 618:18 622:10

initially 611:7 618:16

initiatives 553:17

innovation 530:25

**install** 461:17 491:21 492:4,14 493:5,19 592:10 601:20

installation 491:1 502:4 584:15 585:13, 22

installations 526:11 558:7

installed 585:24

installers 466:1

installing 493:20

installs 500:1

instance 619:4

Institute 522:1,4

Institute's 535:8

intend 465:9

intended 568:10

intending 488:5

**intent** 572:6

interactions 530:14

interest 553:3,4,5,11, 15,19 568:7 610:12,13 615:8 617:7

interested 464:13

**interests** 553:9,13,23 554:1,5,9,16 571:24 572:2,5

intermittent 599:20

International 592:2

interpret 523:3

interrelated 527:14

interrupt 481:16 619:13

interruption 537:17

intervene 571:17

intervention 571:13,

introduce 455:16 468:12 473:13 480:8

introduction 517:22

introductory 512:3

invest 533:16 602:13

invested 489:5,11 529:11

investing 529:9

investment 489:1.7 509:8,14 529:1,20,21 533:7 534:17 538:3 556:8 561:9,11,12,14, 16 600:18 617:3,4,9

investments 533:11 536:11 541:2 591:17 601:7

investor 532:4

investor-owned 521:25

investors 553:6

involved 518:21 538:17 605:13 627:5, 10

involves 620:9

involving 512:6 588:9

irregular 498:19

issuance 568:6

**issue** 454:24 516:15 537:19 562:8,17 574:9 585:18 596:24 601:23 602:9 610:20,21 612:1 615:19,24 622:14 627:8

**issued** 563:19 564:15 565:4.20

**issues** 455:7 542:23 589:14 598:5 614:23 617:24 621:20

issuing 619:22 620:1

J

Jackie 516:11 James 536:21

**January** 538:24 618:15 627:11

**JD** 537:1,3,13

**Jim** 451:24 460:15 467:22 472:15 478:19 501:1 539:18 543:22, 23,24 544:4 563:25 574:1 604:11 621:8

**Joe** 563:11 569:16 570:5 604:20 605:14 626:6

**John** 451:13 458:7 475:8 484:7 513:10 514:20 542:4 595:17 620:20

joint 455:3 619:24

judge 451:2,15,20,22, 24 452:2,3,7,23 453:2, 5,11,17,23 454:2,5,6, 8,10,11,13,15 455:15, 20,23 456:2,5 457:14, 18,21,23,24 458:5 459:23 460:3,7,8,9,12, 15,17,20,22 466:9,16 467:10,13,16,17,18, 21,23,24 468:2,5,8,12, 16,18,19,23 469:1,3 470:2,7,9 472:1,4,6,9, 12,14,17,20,24 473:2, 5,7,10,13,17,20,23 474:22 475:1,6 478:6, 9,13,14,15,17,21 479:1 480:1,5,8,13,17, 20 482:14,21 483:5,8, 13,16,22,24 484:3,6

489:15.19.23.25 490:1,4,15 500:24 501:3,6 506:23 507:2, 15,22,25 508:3,13 512:1,4,23 513:3,12, 16,20,25 514:4,8,11, 15,18 515:20 516:2,7, 20 518:4,9,17,19,24 519:6,10,14,19,23 520:2 521:21 532:10 537:20,23 542:10 543:3 544:11.12 545:4.8 550:18.24 558:12,15 559:18 562:12 563:9,11,13 567:6 568:25 569:3,6, 13,21 570:1,9 573:7, 12,18,24 574:1,3 581:18 584:7,9 595:1, 6,8,14 600:2 603:8,12, 20 604:9,11,16,20 605:2,14,17,21 612:24 618:9,12 619:10,14 620:22 621:5,8,16 622:16 623:1,9,13,15, 16,19,21,24 624:6,9, 18,21 625:8,13 626:2, 12 627:18,20

judicially 620:8

July 504:25

jump 593:5

**jumped** 569:11

jumps 590:23

**June** 608:18,19

justify 528:13 556:1

Justin 490:23

K

K-L-I-E-T-H-E-R-M-**E-S** 480:16

**Kansas** 452:1 512:6. 14 520:11,15 522:15

523:8 524:1,15 525:18 545:13 549:9.12 552:22 561:23 574:9,

13 575:20 576:5

578:25 579:1.4.10.21. 22 588:6,11 591:21 594:12,15 598:13,14 602:21,22 607:20 617:7 620:5,10 621:11 623:2,3 624:25

**KC** 621:12

**Keeley** 516:11

keeping 611:2

**key** 590:19 599:5

**Kimberly** 468:6,14,21 469:5,12

**kind** 498:4 506:3,14 509:7 537:14 606:15 620:17

Kliethermes 464:2 466:7 480:6,12,13,16, 21,24 481:4,7,17 482:11,20 484:10 485:23 487:5 489:16, 20,24 490:2,9 491:24 496:12 499:23 500:22 501:4 508:17 512:5 513:4 624:16

**knowing** 511:14

knowledge 457:7 469:23 474:18 482:5 509:13 517:13 524:17 622:6

**kw** 497:11,18,19,22, 23,25 498:1,3,7,15,18, 19,20,22,24 499:5,11, 12,17 504:25 505:25 534:9

L

L-U-E-B-B-E-R-T

473:19

**L2** 491:1

**lab** 525:21 526:4,16, 18,20 527:6,8 564:19 570:14,24

labor 552:2 592:7

**laboratory** 495:20,21 557:19

**Labs** 563:20 564:16 566:5

lack 524:1 531:18

ladies 627:22

laid 603:25 604:2

lands 626:21

**Lange** 457:16 463:22, 24,25 466:6 501:7 502:9 503:10

**language** 493:23 565:15

large 486:2 499:14 505:17 522:6 529:1 536:12,24 544:22 545:15 546:12,17 550:23 591:1 617:3

larger 493:13 499:5, 20 509:16,19 556:3

largest 509:20,25 552:14,15,16

lastly 481:21

lasts 499:15

laundry 599:11

**law** 542:16 589:17 590:4 618:14 620:4 627:6,11

Lawrence 611:5

lawyers 623:2

lay 620:13

laying 516:18

**lead** 451:7 521:1

leaps 532:2

learn 554:25

**learned** 536:17

learning 464:13

leave 571:16 606:3

led 520:21

**left** 488:12

legal 542:25

legislative 589:9

length 471:4,7 597:20

lengthy 605:25

**lessons** 536:17

letter 473:9

level 476:4 491:1,21 492:4,14 493:5 499:18 506:19 509:11 510:10 563:5 567:5 597:12 598:22 610:16

**LGS** 486:3,7 505:7,8 511:11 546:15 549:5 550:23

**liability** 531:18 536:11

**Liberty** 453:14,18,19

**light** 478:23 506:23 508:9 545:13 556:7

light-duty 577:11

**lighting** 496:20 497:4,7,10

**lights** 497:7 498:16,

**limited** 459:13

limits 487:16

lined 504:5

**Lines** 476:11,13 527:10 557:16,17,18 559:7 578:20

list 451:10 455:3 459:24 516:5 519:24 606:11 619:24

**listed** 470:4 604:22, 25

**listening** 452:16 554:18

**Literally** 526:16 600:12

**littered** 528:4 561:23

**live** 528:16 529:7 567:19,22

lives 536:23

**Living** 574:6

**lo** 529:17

load 477:1,2,6,15,17 479:13 496:18 497:5, 7,8,23 498:1,3,8,15, 19,21,23,25 499:1,5 510:25 511:14 524:21 529:22 593:12 610:23, 24 611:8

**local** 504:12 563:3 597:12

**location** 465:18 466:19.20

locations 458:23 459:18 466:25 477:18 594:5 596:9

locked 587:18

locking 530:22

logged 572:14

**logic** 506:3 561:7

long 454:20 462:2 530:10 587:19 596:10 609:5 611:2,6 626:9 627:12

**longer** 452:12 561:14 611:2,6

longest 568:23 570:21

**looked** 504:19 506:9 526:19 542:15 593:22 607:12

lose 499:9

loss 607:16

**lost** 547:12 618:17 623:11,12 627:3

**lot** 488:9 496:22 521:2 525:5,8,12,17 528:12 530:19 541:22 555:21

560:18 561:13,16 589:18 596:6,11 600:13 601:9 602:17 603:22 614:12 626:20 627:9

**loud** 547:23 548:17 594:6

**Louis** 520:11,15 521:16,20 523:13,25 524:8,17,19 525:18 556:18 578:21 579:4, 8,21,24

**low** 522:12 537:9 607:22,23 614:23

**lower** 499:17 588:15 590:1

**LP** 549:5

**Luebbert** 473:3,7,16, 19,20,24 474:2,6,21 475:11 478:20 479:4 480:3

Luebbert's 473:3

#### M

**M-A-R-K-E** 514:14

macro 610:16

Macrolevel 553:13

made 465:10 476:13 489:2 507:11,20 517:3 536:11 541:13 581:7 583:22 604:14 619:6, 17 626:4

mainstream 573:1

maintain 566:12

maintaining 505:21 600:16,17

majority 526:13 558:8 614:18

**make** 455:8 457:1 459:2 465:13 471:9 482:23 486:17 493:15, 16 543:12 552:3 553:6 556:14 565:12 581:6,9 582:3,10 586:3 587:21 593:19 597:6 601:10 605:10 608:25 609:3, 18 613:24 614:20 616:1,9,25 619:12 620:7 625:16

**makes** 494:25 532:6 614:21

**making** 494:11 540:7 616:22

malls 549:25

managed 503:11 504:13 505:22 506:5,7

management 529:2 553:7 616:24 617:1,3

manager 456:13 469:11 481:2

managerial 540:7

mandated 503:2

mandatory 488:16

manner 528:2

manufactured 462:24 463:1

manufacturers 461:5 462:20,24 463:2

March 565:20,25

mark 452:13,14

Marke 513:9 514:1,2, 6,8,14,15,22,24 515:24 516:24 517:23, 25 518:10,14 520:4 532:11,14 542:1 543:9 544:18 563:16 565:13 566:8 567:13 569:17 570:13 571:8 572:1 573:6,14,17,25 574:2, 5 580:1 581:20 584:10 595:12,18 603:11 604:3,23 605:7 613:4 615:10 616:23 625:21

Marke's 517:25

**marked** 456:17 469:14 474:8 481:6 515:18,19 545:1 550:20 603:10,18

**market** 525:1 530:23, 24 561:20 562:6 577:4 616:19,20

marketing 621:14

marking 605:23

married 600:15

**math** 579:3 581:10 582:3 606:1,3 608:13

**matter** 451:4 455:10 513:18 521:4 542:23, 24 611:10 625:22

**matters** 454:18 620:17 624:3 626:5

**Max** 557:13 565:8

**maximum** 504:22

**means** 495:18 529:3 557:23 586:21

meant 596:25 618:10

**measure** 542:17

measurement

512:13 594:14

**MECG** 453:22 459:24 472:1 478:6 489:15 532:10,15 541:24 544:14 545:6,11 550:16 551:1 554:11 611:16 612:9 613:23 614:5

**medium** 522:12 544:21 545:14 546:8

**MEEIA** 476:2,3 477:13,22 478:2 479:15,18,23 560:18, 21 562:10

**meet** 490:12 530:2 599:19

**meeting** 452:14,21,23 453:5,6

megawatt 476:24 477:16.17

members 457:12

571:20,24 572:3,5

mental 582:13

mention 529:1

mentioned 464:4 487:23 492:7,22 497:11 501:24 534:22 556:20,23 588:12 608:5,7,16 616:23

mere 611:21

Mers 454:10 455:14, 18 456:9 457:10,17, 20,23 468:1,7,10,14 469:3,7,25 472:23 473:5,9,12,15 474:1, 20,24 478:25 479:2,3 480:7,11,23 482:8,16 483:1,7,14,21,23 484:1 508:12,14,16 511:25 513:2,19 520:1,3,6 527:5 532:8 558:5 563:18 624:4,8, 11,20

message 452:17

**meter** 496:15,21,23 497:5,13,14,24 498:10 547:25 548:20 551:23

**metered** 496:17,21 502:25 503:1

metering 503:7

meters 496:14 529:14

**method** 523:2 525:2,

methodology 533:4

**metrics** 464:6 503:18, 24 504:8 523:7 537:14 578:14 592:18

**metro** 451:5,23 481:13,15,23 509:23 517:8 524:17 535:10 549:9 552:17 575:10, 11 577:11 579:23

**MGS** 546:10 549:5 550:23

microgrids 551:9

**middle** 575:8

**midst** 454:19

**Midwest** 453:19

million 489:7,11 510:1,9,11 523:12 531:21 533:25 534:3 535:14 594:1

million-dollar 591:23

mind 457:3 481:25 517:10,15 590:18 619:19 627:6,7

mindful 555:23 556:9

mine 536:8

**minimize** 560:11,19, 22,25

**minimum** 499:19 502:11,16 587:1 600:22 601:1

minute 470:3 569:6 603:13 618:7,8

**minutes** 513:6,14 532:1 543:7

mischaracterize 492:25

misguided 530:20 misleading 540:19

mismatch 587:14

missed 454:9

mission 589:10 611:4

Missouri 451:5,23 454:5,7 456:12 460:7 467:13 469:10 472:9 474:4 478:13 481:1, 13,14,15,22,23 489:23 509:19,21 514:21 515:2 520:18 521:6 522:16 524:13 527:25 533:4 534:4 539:7 542:20,21 543:1 554:1,2,3,4,11,13 571:20 573:17,18,19 574:10 575:5,10,11 576:8 577:11 578:7,16 579:6 581:5,11 582:6 583:6 588:23 590:20 591:6 594:1 595:4,7, 18 602:22 605:4 607:8 608:23 611:16 617:7 620:4,11 622:12,13 624:23

**Missouri's** 488:20 504:3 510:24 573:13

misspeak 505:13

misspoke 491:11

misstated 605:8

misunderstanding 605:16

mixed 606:13 608:20

modeling 479:19

models 561:19 602:6

## modifications

463:18 493:3,10 501:16 584:13,19

**modify** 491:20 492:13 618:22

moment 464:20 475:15 476:15 566:18 612:13

moments 528:10

money 487:13 488:9 523:21 528:8,12 529:9,12 553:6 555:10,24 561:5,20 562:23 585:6 589:24 601:12 602:16 611:11 612:1 614:21 617:22

month 505:12 506:18

**months** 504:23 505:2 506:2,19 587:2 607:18

moratorium 538:15

morning 451:20 453:21,23,25 454:6,15 458:9,10 470:13,14 475:11,12 484:10,11 490:9,12 516:1,8 520:4,5 532:14,16 563:16,17 **motion** 498:16 507:19

motivating 536:23

motivation 533:19

**move** 483:14 485:23 487:5 495:23 517:21 561:2 563:4 589:10 593:3 597:16 602:19 609:4,19 611:15 615:10

moved 487:19

movie 549:24

moving 529:7 531:15 532:3 539:1 542:20 543:7 551:4 553:2 554:18 555:8,13 560:2 562:1 597:14 602:3,8 610:17 616:11,16

multi-family 487:10

multi-unit 567:16,21

Multifamily 567:23

**multiple** 463:2 487:8 529:13 587:7 589:8 613:17 617:22

multiply 557:6

municipal 563:5

municipalities 597:14

mute 539:21

**muted** 453:16

#### Ν

**N-E-M-A** 460:25 461:4 491:22

**narrow** 585:1,3 609:21

nation 552:15

national 461:4 462:19 525:21 526:4,18,20 527:6,8 535:11,25 553:19 557:19 559:10, 14,16,23,25 563:20

564:16,18,19 565:10 566:5 570:14,24 572:8,21 573:2 610:9

nationally 495:20

native 625:22

**Natural** 453:24

**naturally** 557:24 564:14 612:2

**nature** 517:2

**naïve** 597:1

**nearest** 568:17 570:18

necessarily 471:5 476:25 486:7 507:4 622:14

necessity 572:25

**needed** 502:25 526:15,24 552:2 559:4 566:16,23

**needlessly** 530:1 611:10

**negate** 607:24 613:19

negotiated 590:12

**Nelson** 475:14 476:5, 13,23

**Nelson's** 476:7 479:5

**NEMA** 460:25 461:4,7 462:3,7,8,11,15,19,21 463:4,9,20 491:22 493:20 501:20,25 584:15 585:2,3,13,23 586:5,20

**net** 502:25 503:1,7 610:20 611:14

**netting** 551:21

**network** 459:15 465:1,7 466:2,4,21,22, 25 467:7 487:25 489:1,6 500:3,9 509:14 510:4,6,11 523:13 526:14,22,23 531:2,3 534:23 539:4 540:4,14,16,24 541:10 552:6,9,14 554:23 555:15 556:16 559:3 560:6 561:5 566:16,22 571:10 596:16,18 608:15 609:20,24 612:20 613:3 616:7

networks 560:2

**neutral** 554:13

niche 609:21

**Nicole** 454:10 479:2 508:14 520:6 623:22

night 599:19

noisy 603:23

**Noiw** 606:20

**non--** 509:18

non-for-profit 554:2

non-missouri 509:18

non-time 591:10

nonessential

533:22,23 534:15 588:4 600:20

nonparticipants

587:14 588:2 598:20 599:3,5,14

nonregulated 509:18

nonresidential 548:14 550:10

nonsensical 601:23 611:22 613:12

nonunanimous 588:12

**note** 516:13 524:4 557:20 563:24 566:5, 21 594:5 620:23 622:11

noted 564:2 612:24

**notes** 502:9 573:20 618:7

**Nothing's** 541:11

**notice** 507:13,17 612:14,18 620:3,5,12,

15 624:22

noticed 620:16

noticing 620:8

**November** 618:19 627:17

NRDC 454:1 460:4 467:11 472:7 478:9 489:19 553:22 557:12 563:9,12 569:17 604:21

**NRDC's** 525:22 591:19

nuance 494:4

**nullifies** 531:22 534:12

number 452:10.14. 20,22 453:5,7 462:9, 24 464:12,22 481:14 482:15 516:4,14 517:6 519:1,2,10,11 520:16 521:10 522:13 523:3 529:8 530:8 532:21,22 536:5 537:10,13,15 545:2 547:1 552:23 562:18 572:16 574:9, 13 575:9 576:7,18,19 577:1,10 578:6,21,22, 25 579:8,10,13,20 582:16 583:14 592:21 593:2 596:9 602:5.21 612:10 619:17 622:3 625:12

numbered 547:2

numbers 460:25 483:3 519:4,7 520:11, 19,25 521:13,15,19 522:13,15,17,24 523:25 524:2 526:20 532:18 545:5 555:3 574:12,15 578:9,10,14 579:4 580:25 604:25 605:11,12 606:6,7,9, 10,22 607:4,5,9,17,22 0

**O&m** 489:8

oath 455:17,24 468:13,20,24 473:18, 21 480:9,18 514:12,16

object 529:25 581:14

**objection** 482:21 519:15 541:21 542:5 543:3 569:2 570:10 581:18 604:15,19 619:6 622:5,18,21,24 623:4

**objections** 483:8,16 518:4 519:19 550:18, 24 604:1,9 622:2 624:1,17

objects 529:25 622:8

observation 529:9

**observations** 589:4 620:18

obsolescence 615:17,19

**obsolete** 531:10 561:18,21,24

**obvious** 486:16 617:23

occur 477:5 494:21 612:2

occurred 606:1 626:15

occurring 496:16

**occurs** 496:7 499:9 626:13

October 451:2,3 607:5 618:16

**off-peak** 494:22 495:4,11 599:6

**offer** 457:19 482:9 500:6 507:11 516:21 528:1 550:2,14 603:19 604:1,5 offered 455:4 482:13 485:11 518:3 540:19 545:19,21 546:2,5,8, 11,14,16,18 548:2,23 549:2,4 550:16 560:17 587:12 589:15 590:10 598:7,19 603:17,21 604:7,17 619:4,8,15, 20 620:25 622:9 623:10,11,24 625:1

**offering** 457:11 482:25 483:1 485:5,9 508:19 516:17,19 588:14 602:6 603:14

office 451:12,14 458:1 470:3,10 475:2, 8 484:3,7 513:21 514:21 515:2 544:18 554:11 556:12 573:17 584:12 585:19 588:4 595:11,18 598:11 603:23

official 507:12,17 519:8 612:14,17 620:3,10 622:12 624:22

**officially** 620:5,8,12, 15,16

officials 590:7

**offset** 524:8 587:13 606:18

offshoot 522:1 551:18

oil 588:1

omitted 519:4

on-the-record 592:23

ongoing 489:8

**online** 498:25 501:9, 11,14 515:20 573:19

**OPC** 458:2,7 466:12, 15 470:5 475:3 479:4 506:24 508:17 509:7 513:11 514:6 515:13 517:22 518:2,7 527:12,23 541:24

542:4,5 543:17 569:1 584:18 585:10,13 586:23 596:24 603:10 604:7 605:19 619:11 620:21 622:4,6,8 623:14 625:5

**OPC's** 513:8 527:17

**open** 491:15 545:4 550:19 575:24 592:24 611:2,5 621:16 623:3

opening 552:21 575:7

**operate** 495:15

operated 577:20

**operates** 589:13

operating 496:18 499:4 577:11

operation 618:14 627:6,11

operations 500:17

operative 575:22

opine 591:25

opinion 487:20 530:12 550:7 552:12 554:22,24 555:1,15 556:15 577:24 584:19 585:4,11,14,18 587:4, 6 588:16,19 589:21 592:11,25 613:23 617:14

**opinions** 591:8,11

**Opitz** 454:6 460:8 467:15,17 472:11 478:14 489:25 595:6

**opportunities** 533:16 534:1

**opportunity** 520:7 540:24 555:21 557:12 591:25 607:12 608:3 611:9

oppose 501:23

**opposed** 470:23 488:14,16 493:14

**opt-in** 538:22 586:25 587:1

**option** 485:6 492:7 502:4,7 594:6 597:24, 25

optional 587:21,23

**options** 555:5 586:21 593:18

oral 507:18

orally 618:22

order 454:24 457:24 465:3,19 470:17 471:18,20,22 477:12 507:17 540:13,18 541:9 545:4 595:20 601:1 612:9,15,18 613:3,9 616:22 618:18 619:22 620:1,15,16 623:25 625:13 627:8

**ordered** 477:13

ordering 619:23

**orders** 482:23 540:17 620:2,10 624:22,23

ordinary 462:4

organization 462:7 521:23

**original** 501:9 519:7, 11 539:15,25 590:15 621:11

**outcome** 498:10 611:14

**outlet** 461:14,17 462:16 463:1,10,17,20 491:22 501:9,20,25 584:12,17 585:10,15, 23 586:5,20

**outlets** 463:4 493:20 494:7 562:7 584:15 585:13,23

outlier 552:24

outline 614:15

outsider 606:13

overrule 570:9

**overruled** 543:3 581:18 623:5

owned 466:1

owning 527:14

Oxford 552:21 554:25

Ρ

**pages** 544:7 548:6 563:20

**paid** 525:6

pandemic 589:17

panels 592:8

papers 571:13,16

**paradigm** 568:22 570:20

**paragraph** 567:2 577:9

parameters 466:19,

**paraphrase** 477:21 507:6

park 568:23 570:21

parse 569:15 596:11

part 466:2 470:21 485:11,15 490:25 491:3 492:15,17,19 493:24 496:18 498:6 510:5,21,24 512:12 524:11 588:13 593:3 594:13 602:7,25 610:20 620:8 622:12, 25

partial 623:3

participant/ nonparticipant 560:11

participants 494:17 496:5 502:10 586:24

participate 491:3 500:6 503:2,7

participates 496:13

**participating** 502:21 510:22,23

**parties** 464:12 503:7 508:5,6 512:21 525:9 554:8,15 588:14 594:7 598:14 603:13 613:16 619:23 625:6

**parts** 505:16 593:14 615:20

**party** 458:17 459:24 470:4 475:3 512:24 519:24 525:7 542:17, 18 622:2

**passed** 524:5

**password** 452:5 453:9

past 511:10 613:25

patience 584:5

**pattern** 570:19

**pause** 533:21 588:5 611:8 612:12

**pay** 505:1,25 506:8,19 522:5 601:2

**paying** 614:12

**PDF** 625:24

**peak** 528:18,22,23 530:2 599:9 600:12

**pending** 588:23

**people** 452:6,8 483:2 521:3 528:9 556:6,10, 21 560:20,23 567:19, 22 600:3 601:9 602:10 606:24 615:8 624:22

perceived 557:21

**percent** 497:5 498:10 558:9 577:3,13,16,20, 21,25 578:1 592:3 598:2 606:10,11 607:23 609:25 613:11

percentage 496:20

perform 582:14

**performed** 477:11 609:6

**period** 471:5,7,10,21 485:21 498:24 499:9 505:11 506:8 538:15 585:5 587:2 600:22 611:6

**periods** 568:23 570:22

permit 518:25 618:6

permitting 592:9

person 516:9

perspective 528:2 556:22 610:16

pertinent 610:5

perverse 534:14

petition 571:16

**PEV** 559:4 568:16 570:17

**PEVS** 557:24

PHEVS 577:16 609:1

**phone** 452:10 461:23 556:11,13 601:24 619:19 623:17,19

**phrase** 460:25 462:7, 12 571:10 608:1

physically 461:20

pick 498:14,24

**picture** 498:11 540:16

**piece** 465:24 467:2 492:22

pieces 465:23

**pilot** 464:5,7 465:19 485:12,15,17 503:11, 17,19,23,25 523:18,19 532:7 555:2,3 560:6 592:17,19 593:1,3,22 611:12

**pilot-wide** 593:16 **pilots** 485:20 591:11

PIN 452:11

pinch 626:22

**PISA** 529:4,10,15,18 538:8,15

**place** 467:6 495:4 505:2 523:6,8 529:14 531:3 591:4

**placement** 568:16 570:16

places 568:23 570:21

plan 529:3,6,19 590:7

**planned** 529:20

planning 535:18

**plant** 538:9,22 556:8 601:7 611:6 613:6

**plants** 561:17 588:1 611:2

play 615:20,25

plays 597:24 598:6

**plug** 461:22,24 462:5, 16,22 463:7 495:9 597:3,4,6

plug-in 517:6 519:13 566:20 570:17 573:1 576:17 577:18,21 580:5 581:9,16,23 582:3,7 583:3,11,19 606:14,25 607:1 608:24 609:1

**plug-ins** 576:23 577:1,2,3,25 578:1,22 581:12

plugging 612:3

**plugs** 562:21

plural 609:14

point 451:10 455:11 457:13 467:3 472:22 482:22 483:21 486:16 502:2 505:25 507:4,20 508:7 513:5 515:17 516:15 523:22 530:9 533:22 540:23 541:12 548:20 551:25 552:3 589:21,22 603:18 607:15 609:23 610:5 616:12 620:19 623:11 624:3 627:13

**pointed** 592:21

**pointing** 457:21

**points** 532:25 535:6 541:10 555:19 600:13

**policy** 587:17

**poll** 536:6

**pollution** 589:14 593:18

**pop** 615:5

**portal** 453:6

**portfolio** 451:6 464:11 525:11 527:25 531:23 533:20 574:18 597:6 598:7 610:6 618:4

**portion** 484:13 488:13 534:4

**portions** 456:16 469:13 474:7 475:23 481:5 612:19

portrayed 540:20

posed 517:16

**position** 476:21 554:15 583:22 590:20

positions 527:18

positive 613:18

possibility 588:4

**possibly** 459:13 464:2 466:24

posthearing 624:2

postpone 621:4

**potential** 458:20 459:17 477:9,15,18 478:1,3 551:17,25 585:23 615:17

potentially 466:25 538:5 539:12 599:4

600:12

**power** 522:3 537:1,3, 13 544:22 545:13,15 546:17 550:23

powertrain 606:17 608:8

preassigned 545:2

preceded 589:9 preceding 565:10

**predicted** 479:24 613:20

preferably 587:7

prefile 585:22

prefiled 625:10,11

prejudicial 541:25

preliminary 454:18 455:10 466:23

premarked 515:5

prematurely 561:16

**premise** 586:10 598:22

premised 622:5

premium 521:4

**preparation** 515:24 516:19

prepare 455:3 515:10

**prepared** 455:11 456:16 469:12,13 474:6,7 481:4,5 515:4 516:25

present 541:8 624:2

**presented** 619:24 622:13

presents 458:25

press 531:24

**pressure** 535:24 587:24 600:11

presuppose 525:14

**pretty** 477:8 499:1,3 534:12 541:23 573:8 592:14

**prevent** 467:6 471:11

preventing 562:22

previous 477:13 539:23 564:22 601:18 622:25

**previously** 512:7 625:5

**price** 586:18 599:13 600:15

prices 609:16

primarily 475:23 484:13 528:3

**primary** 493:1 529:25 568:15 570:16

**principles** 511:17,19

**prior** 509:8 570:15 622:13

**problem** 482:16 495:23 525:14 541:12 547:14 555:22 562:10 572:15 586:14 587:19 595:3 601:14 608:14 617:18 625:7

problematic 452:10

**problems** 453:12 487:2 488:4 541:10 555:22 587:20 606:12 611:20

procedurally 515:17

Procedure 543:1

Procedures 542:21

proceed 453:11
454:17 456:5 458:3,5
466:16 468:8,10 469:1
470:5,9 473:11,23
475:7 479:1 480:6,10,
20 484:6 490:4 507:2
508:13 513:23,24
514:18 515:17,19
519:20 520:2 537:22,
24 543:4 545:9 557:24

563:13 564:14 570:10 574:3 595:14

**proceeding** 516:10 521:22

**process** 516:18

prodding 627:19

produce 514:5 590:6

product 590:9

**profile** 497:7,8,23 498:21,23 599:18

program 463:17,18, 23 464:5,13 465:12, 18,19,21,25 466:4,7, 20 471:4,7,12 476:2 477:5,17 478:1 485:12,16 487:6,7,12, 17,24 488:5,22,24 491:3,20 492:5,13 493:2,3,11,16,21 494:1,7,12,15,16,21 495:3,11 496:5,13 500:6 501:9,17 502:21 503:3,11,14,15,17,23 507:8 510:24 522:19 525:11 528:15 529:23 537:24 547:11,22 548:24 560:9 561:3,4 562:3,8,16,20 563:1,2 567:20 584:14,17 585:5,10,15 586:11 588:3 589:1,4,7,8,9,20 590:9,10,14 591:3 592:17 593:16 595:24 596:16 597:6 599:16, 24 600:4,8 601:1,10, 15,18,19 611:8,17,21, 22,25 615:2,21 617:15 618:1 621:14 622:8,9

programmable 495:6

**programs** 465:8,9 478:2 503:8 512:12 523:5 551:25 560:18, 21 593:17 594:13 610:6 613:12 622:1

**prohibit** 471:11 622:14

prohibited 511:9

**project** 458:24 522:9 526:12 558:8

projected 522:17

projections 607:21

**projects** 526:14 529:7 554:7 559:3

**promote** 524:6 609:19

**promoting** 556:17 611:8

promotion 609:12

prongs 461:20,23,25

pronounce 490:9

**proof** 581:15

proper 586:18 622:17

property 467:2

**proposal** 465:2,6,23 504:10 547:8 548:11 554:17 555:4 618:3

**proposals** 484:20 535:23 538:4

propose 476:8

**proposed** 466:1 484:14 485:5 487:7,12 488:18,19 490:25 508:18 509:16 527:13 547:10 548:9 549:2 551:5,9,12 552:5,8 567:15,25 568:4,9 615:20

**proposing** 461:15 484:17 486:2

proposition 564:14

protected 621:22

**protests** 536:13

**provide** 459:11 479:16 496:5 498:11 528:23 532:18 533:25 540:16,21 542:15,17 550:8 555:7 610:15 622:7

**provided** 459:11,16 479:19 486:22 512:17 521:6 522:11 524:23 529:5 559:7 593:9 594:10 605:5,11 606:20

**providers** 465:4 530:14 615:13

**providing** 500:12 512:20 549:23

**provision** 487:16 547:23 548:18

provisions 493:23

**prudence** 539:2 613:19,22

prudency 539:14,24

prudent 555:25 594:18 617:9

**public** 451:12,14

456:12,17 458:1 469:10,14 470:3,11 474:5,8 475:2,8 481:1, 6,8 482:10,17,19 484:4,8 500:2,7,12 513:21 514:21 515:2 517:23 526:11 529:6 536:14,15 544:18 547:17 554:11,13 557:20 558:7 567:4 573:17 584:12 585:19 590:13 593:7 595:11, 18 615:11 617:6

publications 536:2,5

**publicly** 521:5 535:18 611:4

**publish** 625:24

**pull** 490:14 491:8 505:8,12 510:22 537:14

**pulling** 491:15

punishes 613:7 punting 591:24

**purchase** 463:19 491:1 492:4 501:19 502:3

purchased 607:7

purchasing 527:14

**purpose** 505:18 514:20

**purposes** 457:22 547:16 548:14 582:5

pursuant 457:25 618:18 626:16

**purview** 587:10

push 562:6 626:9

**put** 488:8 489:4 494:13 518:20 534:8, 10,15 551:23 552:4 556:22 560:10 590:3 594:10 597:4 599:7 604:15 611:23 619:15

**putting** 512:18 555:4 562:21 587:12,24 594:2 599:12 600:11

## Q

qualified 603:25

**qualify** 492:4 603:24 622:23

qualifying 491:21

quality 611:25

quarter 535:19

quarterly 504:4 596:7

question 459:5,21 462:2 463:21,24 464:1,9 465:5,22 466:18 467:4 476:17 479:24 494:3,13 496:3,10 500:4 501:15,21 503:5,8,13 504:18 507:4,6,19 512:2,3,11,24 513:1 519:1 520:10,24 522:10 525:3 537:25 554:22 558:4,16,17 562:2,13 564:10,23 568:15 569:7,13 570:13,16 571:6 575:13 581:15 582:5 583:24 586:7 587:16 589:6 594:9 595:24 596:15 597:20 600:2, 5,7,21,23 601:13,18 607:19 610:11,14 611:17 612:8 613:20, 21 615:12 617:10 619:19 624:12,14,24 625:4,9,14,19,20 626:24 627:12,14

#### questionable 531:8

questioning 456:6 484:16 602:23 603:6 614:6 617:12

questions 457:4 460:1,4,5,7,8,10,11, 13,18,20,22 466:10, 11,13 467:9,20 469:19 470:7 471:3,25 472:2, 3,4,5,7,8,10,11,12,13, 14,16,17,19 474:14 475:5,18 478:5,8,11, 16,20,21,23 479:7 482:1 484:4 485:25 488:11 489:14,16,17, 20,21,24 490:2 495:18 499:25 500:23,25 501:2,3,5,6 506:21,23, 25 507:22,24 508:2,7 509:6 510:14 512:4 517:16 519:25 528:15 529:8 532:11 541:22 542:1 547:6 558:15 559:6 563:7,10,12 569:8 572:7 573:5,9, 19,22,25 574:2 584:5, 8,9 592:13,14 595:2,3, 5,7,10,21,22 602:19 604:12,13 609:4 611:15 614:3 615:11 620:18 623:2 625:2

**quibble** 498:13

**quick** 533:21 589:22 608:6

quicker 598:24 599:2

601:25 616:17

#### quickly 602:8

**quote** 476:22 491:24 504:11,13 505:4 526:10 536:21 542:23 545:23,24 552:6 559:2 566:4 567:2,7 568:14 569:18,23 571:10 573:2 592:3

**quoted** 525:21 563:20 564:6,20,21 565:15

**quotes** 564:7 572:25 **quoting** 566:22

#### R

#### R-O-B-I-N 480:15

raise 456:3 468:23 473:20 480:18 514:16

raises 517:7 587:19 598:5

range 459:12,16 531:22 534:13 557:21

ranking 537:3,11

ranks 537:6

rapid 562:1

rate 471:1 477:7,10 481:2 484:20 485:13, 24.25 486:3.8.20.25 487:1,4 488:19,20 502:11,23 504:10,11, 19 505:7,8 506:10,14 508:22 509:5,15 511:4,7,9,12 512:21 521:11 522:13 529:13 533:10 534:15 535:8, 11,18 536:15 537:12 538:4,17,20 540:4 543:13 544:8,17,20 545:14,18,21 546:1,5, 8,11,12,16 547:7,22 549:3,5,14,17 550:5,7, 12,22 562:1 581:8 587:9,12,18 590:1,18 591:4,16,18 601:6

616:21

ratemaking 533:3,4 537:19

ratepayer 525:6 532:3 534:15 594:18

# ratepayer-funded 530:16

ratepayers 522:5 534:13 535:16 563:6 571:21 591:15 598:1,3 599:14 613:8,13 615:2,6,8 616:9,19

rates 484:14,17,24 485:3,4,5,11 486:15 488:14,16 492:21 494:18 496:8 503:2 506:11 508:18 511:7, 13,16,22 523:15 525:16 527:13 529:12 530:10 534:19,22 535:2,5,7,9,20,24 536:4,18,25 538:19 544:5 586:22,25 587:1,11 588:16,17 590:25 591:14 600:9 610:8,23,25 611:11 614:4,6,8 622:2

rating 462:15,23

ratio 581:16 582:2 583:2.9

rational 523:4

rationale 531:23

ratios 583:12

reach 612:22

reached 457:25

read 453:7 456:23 476:12,15 481:15,23 490:22 519:12 525:22, 24 547:22 548:17 557:12,15 558:25 564:5 566:21 567:1 580:16,20

reads 481:12,14,22

**ready** 458:2 468:5,8, 10 470:5 473:10 475:3

480:6 513:22,24 516:21 537:21 573:13, 14,21 626:19 627:15

**real** 533:21 555:8 589:22 616:18

realized 476:25

reason 529:24 533:24 611:11 614:14 623:22

reasonable 477:12 486:11,12 498:9 522:14 523:7 527:24 528:2 607:6 611:7 616:8

**reasons** 520:24 529:12,25 531:8 541:1 556:9 585:24

rebate 466:20 487:6, 24 490:25 491:20 502:10,21 510:24 512:12 524:6,11 556:20 557:3 560:9, 17,24 561:2,4,7 562:3, 16,25 567:16,20,24 568:10 586:20 587:8 588:15 589:20 591:3 594:13 597:3 598:14, 15,18,19,21 600:5 601:15 611:17,21

rebated 586:5

rebates 461:16 463:19 487:7 501:19 527:13 528:2,6 556:5 560:20 562:6 568:6 596:25

rebating 586:5

rebuttal 456:17 457:11 458:11 469:13 474:7,24 481:5,18,19, 21 482:9,17 491:11,16 515:6 516:25 517:11, 16,22 518:1,15 526:17 528:25 576:13 578:3, 20 605:7

**recall** 479:5,7 502:14, 15 503:13 508:17,23 509:9 510:8,14 523:1, 24 524:24 534:24

572:10,22 595:24 596:21 598:15 600:5, 23 601:4,15 609:7 611:18 612:10 614:6 615:14,16 617:11 623:1 624:19

receive 543:18

received 483:11,19 515:13 518:8 543:25 551:1 595:22 600:2 602:20 603:2,12 604:21 605:18,19 608:22 611:16 613:22, 25 615:11 619:5 620:7 621:19 623:5,7

receiving 455:1

recent 527:18 536:2

recharge 568:16 570:17 608:8

recognize 627:20

recognized 495:20

recognizing 618:23

**recollection** 461:6, 15 462:19 620:25

recommend 491:2, 19 492:3 493:11,14 561:1

#### recommendation

465:14 479:18 492:8, 12,15 493:1,9,12,14, 15 496:4 501:25 502:6 507:7 559:25 560:9,12 601:20

# recommendations

465:2 494:10,15 584:24,25 585:1

# recommended

463:18 485:18 493:16 501:16 560:8 584:13, 18 586:23

recommends 490:24 493:4

reconcile 527:17

record 455:5 458:19

476:12 483:3,5,9,10, 15,17 507:13 508:15 513:15 518:5 520:6 527:22 541:4 550:15, 25 563:24 565:7 573:11 583:23 595:17 605:17 606:23 608:9, 22 609:4 616:25 620:8 621:15 622:11,15 623:6 627:23,24

recorded 504:22

recover 470:20 613:5

**recovery** 504:17 540:4

**recross** 466:12,17 467:11,14,16,19,21 506:24 508:1,7 512:24 595:2,9

recruiting 591:9

red 612:4

redirect 467:25 472:21,22 478:22 479:3 508:10,16 512:25 595:11,16 618:11

reduce 528:23 585:23

**reduced** 476:24 477:16 586:5,8

reduction 593:15,18,

redundancies 465:20

redundancy 467:6

redundant 625:15

refer 464:23,24 465:24 571:3,11

**reference** 456:23 507:12 554:25 572:21 604:14 607:1

**referenced** 479:8 507:9 510:19 606:4,5

referencing 603:6

referred 486:3 556:16

563:19 569:19,20 570:2 580:1

**referring** 461:14 464:15,21 474:22 487:9 490:23 516:3,14 541:5 569:25 580:21

refers 462:19,21

refile 625:11

refine 507:19

refits 592:4

**reflect** 483:9,17 518:6 605:17

reflected 533:20

reflection 619:22

**refueling** 568:22 570:20 571:11

regard 502:19,24 518:1 539:14,25 608:22 613:21 620:1 621:17 622:10

regeneration 551:6

register 541:21 569:2

registered 517:6,7 520:20 523:1 524:10, 11,12 542:5 576:8,10 582:11

registration 578:14 580:22 593:5 605:4,5

registrations 578:16

**regressive** 556:5 597:24 614:17

regular 461:22 462:16

regulate 509:18

regulated 509:17,19

**regulatory** 560:16 590:8 591:22 613:6

reiterate 613:23

**reject** 493:1,3 554:17 560:8

rejected 540:25 590:14,17

**related** 466:21 467:7 484:14,17 539:3 600:2 612:19 621:13

**relates** 488:12 589:4 613:3

relation 601:14

relationship 617:2 622:20

release 531:24

released 531:24

relevance 581:15 622:24

relevant 522:19 542:23

reliable 522:22

relies 570:6

reluctant 500:16

rely 550:11

relying 498:10 542:25

remainder 621:4

remaining 513:8

remand 541:15

remember 575:16

remind 497:18 620:3

reminded 451:16 457:14 544:11

removal 505:21

remove 496:4 563:2

removed 505:18

removes 504:11

**Renew** 454:5,7 460:7 467:13 472:9 478:13 489:23 554:1,2,4 573:13,18,19 595:4,6

renewable 551:5 554:7 renewables 554:3 599:20,21

reorientation 598:17

**repeat** 454:23 455:5 473:5 537:25 552:7 558:6,16 579:7 581:24

repeatedly 540:15

repetitious 625:16

reply 608:3 618:19

report 456:17 457:11 458:11 463:23 464:15 469:13 470:16 474:7, 25 475:24 479:16 481:5,18,19,22 482:9, 17 484:13 486:10 504:6 507:17 509:24 512:17,18,22 536:9,16 540:13,17,18 541:9 552:21 559:11 569:24 574:18,19 576:1 577:7,22 578:2 580:10,18,21 593:10 596:7 600:12 612:9. 15,18 613:3,9 616:21 620:15

reported 578:14,16 607:13

**reporter** 513:6 514:20 516:7,10 627:16

**reporting** 504:4,5,7 594:20

**reports** 596:7 600:13 620:10 624:22 627:8

represent 554:9,16 566:19 571:8

representative 486:18

**represented** 564:7,8, 21 565:19

represents 458:20 553:8,14,22 554:4 571:23 572:2,4

request 455:5 470:17 471:17 539:2 567:7 612:14.17.24 requesting 470:20, 22 588:21

require 463:19 487:13 491:21 492:13 493:4 494:7 501:17 584:15 606:15

required 492:3 494:17 502:10,22 503:20 505:1 506:19 562:13 586:24 587:1 590:5 602:17 621:11

requirement 491:2 492:8,21 494:1 496:4 502:5,7 504:8 512:14 529:5 585:22 594:15

requirements 464:7 465:3,18 493:24 503:25 510:25 592:19

requires 620:2

requiring 492:18,19 493:19 585:12

research 521:24 522:3,5 542:12 564:20 566:4

**researchers** 557:19 563:19

reserved 619:16

residential 463:16 490:24 491:20 492:5, 17 493:1,3 494:11,15, 16 501:8 503:11 509:1,25 510:1 536:25 544:21 545:14,18,21 549:5 550:22 568:10 584:11,17 585:10,15 588:15 591:11 598:14, 15,18,19 601:14 616:2

resolution 621:10

**Resources** 453:24 553:19

respect 457:18 482:23 619:2 621:23 626:7 627:8

respond 542:9 569:5

response 496:6,9 502:13,16 505:3 522:25 529:10 569:21 570:1 584:16 624:14

responsible 458:17 475:23 484:13

rest 497:6 517:10

restate 500:4 570:13

restaurants 549:25

restrictions 599:21

result 476:25 562:8 609:23

resulted 529:2

resulting 611:18

results 478:2 562:17

**resume** 451:3 454:16 573:10

retaining 504:12

**retired** 561:15

retrofit 592:7

**return** 507:19 561:14 590:2

**revenue** 486:20,23 487:2 520:19 521:6 578:7 593:8 605:6 606:21 608:23

Revenue's 607:4

revenues 487:2 525:12 531:5,7

reverse 595:20

**review** 477:6 571:13 618:7

**reviewed** 477:8 575:16 609:11

reviewing 524:24 618:13

**revised** 519:12

revisit 594:7

**rhyme** 611:11

rider 560:14,15 562:8, 17 601:14,19 602:9 612:1

riders 560:11,19

ridership 563:1 586:4,8 611:18,21

rideshare 465:4,8,9, 12,16

**risk** 530:24,25 613:8, 12 616:18,19

**risks** 531:14

**RLJ** 597:10

**Robert** 536:6

**Robin** 464:2 466:6 480:6,11,15,21 481:4, 7 482:11,19 624:16

**Roger** 451:25 452:3 543:15,20 544:2

**roll** 451:9 453:13

rollout 488:1

roughly 534:8 535:12 581:9,22 582:3 583:3

rounded 505:25

route 591:14 597:16

routinely 561:19

rubberstamp 555:12

**Rubenstein** 453:25 454:1,4 460:5 467:12 472:8 478:11 489:21

**rule** 456:22

run 599:18 607:13 611:3

running 617:25

runs 521:5 527:19 611:12

**RV** 612:3

S

safe 533:23

**safety** 495:19

**sake** 608:8 610:24 612:16 616:25

**sales** 584:1

sanity 606:23 611:24

**Sarah** 454:1 457:16 463:22 466:6

**satisfaction** 537:4,7, 11 538:6

**satisfied** 603:25 605:15

save 458:24

saved 511:22

**scale** 552:6,9

scenario 594:3

**schedule** 535:8 545:18,21 546:2,5,9, 11,13,16 547:22,24 548:20 549:3,14 550:5 618:14,24 626:7,17 627:5

scheduled 618:16

**schedules** 543:13 544:8,17,21 545:14 549:5,17 550:7,12,22

scheduling 627:10

**Science** 559:11,23 560:1 564:18 565:11 610:1,9

**Science's** 559:14,16 572:9,21 573:3

Scientist 527:7

score 584:20 587:3

**Scott** 451:21 490:6,13 542:7

screen 623:21

scrutinized 477:8

search 586:14

seasonal 505:15

secondary 560:9

**section** 476:20 542:22 545:20 546:5, 10,15 547:16,18,21 548:3,14,16,17 575:25 577:7

**seeking** 539:10

seeks 548:11

seemingly 488:8

segregated 541:17

**select** 508:4

**send** 515:21 516:9,13 586:18

**senior** 556:13

**seniors** 536:24

**sense** 541:13 601:10 609:18 616:1

sensor 498:16

**sentence** 490:22 547:23 548:18 567:1 578:13 580:17,20

**separate** 483:3 485:16 497:14 507:5 620:9

**separately** 496:14, 17,21

separation 505:15

**September** 524:5 566:19 568:13 570:14 575:10,21 577:12

**series** 589:9

**serve** 477:6,7,10

**served** 485:9 486:25 509:3

**serves** 523:12

**service** 456:12 467:1 469:10 474:5 477:11 481:1 484:23 485:5,7, 10,14,19 486:3,14,19 488:25 494:17 497:12, 19 500:12 504:10

505:17 506:10 508:19, 22 517:5,9 520:17 521:15 522:16 523:3, 16 528:5,7 532:19,25 533:22,23 534:16 535:9 539:7 544:21,22 545:14,15,18,21,22, 23,24 546:1,2,5,6,7,8, 11,12,13,16,17,18,21 547:7,11,22,24 548:2, 3,4,7,19,22,23,25 549:1,2,4,14,16,18,19, 23,24 550:3,11 554:13 556:22,24 561:23 577:11 588:4 600:20

**services** 497:12 533:24 551:5,8,11

608:1 614:9 615:12

**set** 451:3 487:13 504:7 505:2

sets 522:12 607:14

**settlement** 465:21 555:6

**SGS** 546:5 549:5 550:22

**shapes** 524:21 593:12

**shared** 512:8

shareholders 613:8 615:1

**shares** 617:5

**sheet** 485:22 515:10, 18,21 516:24 517:3,25 518:13,15 532:17 547:7 556:23 576:4,19 579:1

**sheets** 547:2,4 618:14

**shift** 613:12

**shifts** 613:8

**shock** 591:5

**shopping** 549:25

**short** 513:5 562:18

shortage 521:3

**shorter** 488:17

**Shortly** 589:16

shot 512:16

**show** 460:12 468:5 475:2 512:22 513:16

**showed** 522:12 552:21,22

**showing** 470:3 519:23 621:25

**shown** 544:24 545:12,20 546:4,10,15 555:24

**shows** 560:25 576:16 577:24 580:22

**side** 516:11 524:17 556:4 560:16 562:10 593:23 594:20 614:13

Sierra 454:1,3 460:4 467:11 472:6 478:9 489:19 553:11,14,21 563:9,12,21 571:14, 19,23 572:2,4,6 604:21 609:5,7 610:12,13,17,21 611:3,7 626:7

**sign** 452:6 502:10,16, 22 586:24 587:1 588:15

**signals** 586:19 600:15 613:18

**significant** 486:19,23 617:5

**significantly** 509:16 528:19,22 535:22

signing 452:5

similar 461:17 463:7 471:17 488:18,23 512:14 517:18 539:13, 24 553:21 558:4 594:15

**similarly** 546:7 612:17

**simple** 471:2 479:14 497:17

**simply** 459:5 477:12 482:24 483:1 539:9 540:3,9 542:18 557:5 605:23 616:2 617:15 620:4.8

single 518:21

sir 453:23 475:13 514:11 519:18 558:14 563:8 579:7,8 580:13 584:4 585:17 605:3 624:20

**sit** 528:12 531:16 555:9 590:21 597:2,23 615:7

**site** 459:18

**sites** 465:20 466:23, 25

sitting 591:17

**situation** 523:10 604:6

**size** 486:10

skin 530:24 560:25

**skip** 554:22

slightly 532:23

**slow** 531:9 561:22 582:19

**slower** 602:1

**small** 497:22 499:20 504:12 528:18,22 544:21 545:14 546:1 552:6,9

**smaller** 552:11 598:3 600:4

**smallest** 497:20,21 499:19

**smart** 494:20,25 495:2,9,13,15

**socialized** 587:14 598:2

**society** 599:24

software 529:15

solely 496:21 497:1

solution 586:14

**solve** 493:8 555:21,22 611:10

someplace 591:21

**sort** 488:7 497:2 499:21 507:1 521:24 551:21 597:4 602:6,16 603:18 610:16 613:19

**sorts** 528:14 598:5 609:18 616:15

**sought** 539:13,24 540:4

**sound** 579:14 613:14

sounds 494:14

**source** 578:8 580:3 605:3

**sources** 604:22,25

**speak** 451:18 506:14 507:23 509:17 527:20 544:12 563:3 571:1 584:25 617:20

**speaking** 523:23 524:9 527:22 531:1 562:12 573:13 589:3

**specific** 462:22 467:2 477:18 487:17 499:10 501:13 503:13 534:4 541:17 549:7 585:18 600:2,5 626:4

**specifically** 455:12 488:17 493:25 498:4 501:23 506:24 542:20 547:6 585:1 598:14 615:1 620:13 621:23

**spell** 455:17,23 468:13,20 473:17 480:9,14 514:12

**spelled** 468:22

**spend** 509:11 555:23 602:16

**spent** 488:1

spike 498:21 506:18

**spikes** 506:7

**Spire** 454:8

**split** 560:11

spoke 603:23

sport 499:24

**spot** 518:20

**SPP** 599:13

**St** 520:11,15 521:16, 20 523:13,25 524:8, 17,19 525:18 556:18 578:21 579:4,8,21,24,

staff 454:10,12,16 455:11,18 456:16 457:10,11,12 459:10 463:17,22 464:10,12 465:2,13 466:6 467:24 468:5,10,14 469:13,25 470:16,23 472:22 473:4,15 474:5,7,20, 24 475:23 476:8 479:2,10 480:6,11 481:5,17,21 482:8,9, 12,16 483:11,14,19,21 484:1 486:9 488:14, 16,17,18,19 492:14, 16,19 493:4,13,17 496:3 501:7,16 503:5 506:11 507:5,8 508:11,15 511:2,3,18 512:25 516:9 519:24, 25 520:6 527:23 529:25 549:8 554:14, 21 558:4 586:23 590:8,13 593:10 615:11 616:24 617:10 619:15,20 621:12 622:6 623:11 624:4,6,

**staff's** 458:11 459:8 463:23 464:15 475:24 479:8,15,17 484:13 493:1,8,24 494:10,14 501:22 511:15 513:18 601:4 623:9,11,19 **stake** 617:5

**stakeholders** 464:6 503:19,24 590:8 592:18 622:13

**stance** 554:13

**stand** 455:19 457:12 468:15 473:16 480:12 514:7 567:7 622:25

**standards** 563:4 597:12

standpoint 555:20

**stands** 461:4 521:22 522:3

**start** 453:5 454:21 485:18,21 501:14 508:6 598:17 605:25

started 513:8 616:6

starting 496:2

starts 498:20

stat-- 569:24

state 451:17 455:16 468:19 477:22 480:14 514:12 520:20 524:12 534:8,11 551:14 552:16 554:3 556:3 571:20 576:8 580:23 589:12,15,18,24 598:12 607:7 614:13, 21 620:11 622:15 624:23

**stated** 486:24 492:2 507:15 535:18 566:23 569:11 570:5 572:20 611:5 614:1 622:16 625:5

**statement** 462:25 476:9,13,18 502:17 527:17 534:24 558:2, 19,24,25 559:13,22 569:14 570:23 575:7 577:10 616:22 619:17 621:2 622:19

**statements** 479:5 517:11 540:13 569:10

**states** 476:8 491:19 536:19 552:17 568:15 570:15 591:22 592:1

**stating** 451:15 508:23 523:24

station 491:22 496:19 497:20,21,22 525:13 527:25 528:8 531:25 534:9,11 558:11 568:17 570:18 586:6 602:1 606:16,19 607:8 616:17

stations 458:21,24,25 459:2,12 465:7,10,11, 15 466:3,4 496:14 497:6,8 500:1 510:3 523:9 525:15 528:4 530:16 531:9 534:7 551:17 552:18,25 559:1 560:5 561:22 567:5 594:2 600:14 607:25 609:16,22,24 610:5,7 613:6

**status** 602:11

**statute** 529:5 538:12, 14 590:6

**Steiner** 451:25 452:3, 21,25 453:1,2,4,10,14, 15 543:15,22 544:3,10 621:6

**step** 461:13 594:23 602:8,13 603:17 610:25

**stepped** 589:19

**sticker** 611:23

stipulated 464:10

**stipulation** 464:17, 19,20 504:3,4,6 507:9 510:19,25 512:6,14 528:1 588:6,14 590:16 592:22,24 593:14,15 594:12,15 598:13 613:15 620:6 621:11 623:2,3 624:25

stock 524:1,14

**stop** 479:25 507:14 559:17

**stopped** 455:2 540:23

storage 551:12,18

**Storm** 535:14 556:7 590:25 614:15

STP 533:17 614:14

straight 573:9

**strain** 599:12

**stranded** 531:4,19 541:2 557:22 561:9, 11,12,16

street 467:2

streetcar 549:15

streetlight 458:24

stress 590:23 614:17

**stretch** 522:14

**strong** 560:4 585:4, 11,13,18 600:15 601:6,8 610:3

**structure** 465:12 588:16 602:14

**studies** 504:19 525:8 566:10 571:7 591:14 609:6,11,13,14,23 611:12 617:23

**study** 477:11 506:10, 11 521:8,9 522:7,8,11, 12,18,22 523:18,19 524:20,23 525:10,20, 21,25 526:4,9,18 527:6,7,8,21 552:22 554:25 555:1 557:25 558:3,5,20,24 559:2, 14,16,24 563:19,25 564:2,7,9,12,25 565:3, 9,11,20 566:6,8,9,13, 15,19 567:2 568:14 569:18,24 570:2,6,14, 24 571:1,3,9 572:9,21, 22,25 573:3 591:10,23 594:19 596:20 608:2 609:14 617:16,24

studying 626:14

**stuff** 560:20 596:12 603:23

**stupid** 536:22

**subject** 509:5 518:12 542:24

**subsidies** 523:25 591:1

subsidize 615:3

subsidized 563:6

**subsidy** 524:6 589:16

substantial 477:1

substantially 517:17

substantiate 523:6

substantiates 606:6 608:2

**suffer** 556:11 615:9

**suggest** 464:14 536:13 577:3 579:5 580:25 592:20

**suggested** 574:12 575:9

**suggesting** 521:12 576:9 577:20,25 582:25

**suggestion** 584:14 585:11

suggestions 620:19

**suggests** 582:4,21

**sum** 489:1

summarize 609:10

**summary** 527:12

**supplement** 529:16 622:10

supplied 578:7

**supply** 596:17 621:12

**support** 463:16,18 479:10 501:8,16 511:17 522:9 525:20 526:15 529:15,21 554:6 559:4 566:17,23 567:16,25 568:2,10 584:11,13,17,18,23 585:9,14 592:4

**supported** 463:23 526:8 555:16 578:14 618:2

**supporting** 599:23 610:22

**supportive** 503:6 540:22

**supports** 530:6 554:2 556:15 606:7 613:14

**suppose** 597:21

**supposed** 598:19 616:20

surcharges 535:20

**surmises** 524:13

**surprised** 574:12,15

surrebuttal 475:19 481:7,18 482:11,19 490:18 491:6,15 494:13 495:25 496:2 501:22,23 515:6 517:12,16,24 525:22, 23 526:25 565:8 572:9 578:9 608:4

**survey** 537:3

**suspect** 597:15

Sustainability 529:2, 19

swear 456:3

**switch** 487:1

switching 597:25

**sworn** 456:4,7 468:25 469:5 473:22,24 480:19,21 514:17,22

**symbol** 602:12

**system** 477:19 479:13 511:21 529:23 530:2 564:1 587:25 T

tab 605:4,5 607:1

**table** 458:17,20,24 459:2,6,7,11 519:5 580:11

tacking 593:10

**tailpipe** 589:11 610:19

takeaway 613:2

**takes** 476:23 505:1 591:4

**taking** 486:14,19 509:13 523:6,8 562:22 612:16 622:14 624:22

**talk** 452:17 494:9 533:3 569:6 606:14 626:24

**talked** 503:16 549:8 592:15,16 597:20 600:13

talking 452:25 483:6 508:18 521:18 522:8 523:18 529:19 556:3 564:25 574:8 578:20 607:22 610:6,7 615:5

target 598:11

tariff 485:2,13,14,15, 18,19,20,21 486:14 487:16,18 493:22,23, 25 494:1 496:18 497:4,11,13,18 499:12 504:21 505:7,8,17 508:21 509:2,4 511:9 547:1,4,7 548:6,9

tariffed 485:2 486:25

**tariffs** 481:2 485:9,16, 20 494:5 508:25 509:2 549:20 597:5

**tax** 524:6 589:16,23 598:1 614:20

**taxpayers** 589:25 598:4

team 451:25 452:4

technical 626:4

technology 531:10 532:3 561:18,21 562:1 586:17 602:8 615:17, 20 616:3,10

**telephone** 452:9 453:3 537:17

ten 627:9

**tender** 457:13 469:25 474:20 483:24 484:1 519:21

tentative 622:5

**term** 460:24 461:2 462:21 560:16 561:16 577:14,17

**terminology** 463:13 504:9

**terms** 460:24 464:7 466:20 488:22 503:19, 25 521:2 561:17 592:19 616:2

**territory** 467:1 484:23 488:25 517:5,9 520:17 521:15 522:16 523:3, 17 528:5,7 532:25 561:24 575:10 577:10, 11 602:22 614:9

**testified** 456:7 464:1 512:6 518:10 554:19 585:20 604:17 608:24

**testifies** 469:5 473:24 480:21 514:22

testify 528:17 604:23

testimony 454:18
456:21 468:3 469:17,
22 474:12 475:13
476:7,20,23 479:5,7
480:3 481:7,11,18
482:11,19 490:19
491:4,6,12 492:7,9,19,
22,25 495:25 500:10
501:10,22,23 502:1,3,
6,14,15 503:12 515:5,
6,8,11 516:25 517:12,

17.22.24 518:1.15 520:8 521:1 522:11 524:2 525:22,23 526:17,25 528:17,25 541:1 546:23 547:1 557:13,15 559:6 560:3 563:21 564:5,6,9,13, 17,20,22,24 565:4,14, 19 566:1,12,21,22 568:14 569:20 570:2, 7,15 571:2,4 572:10 574:13 575:17 576:1. 4.13 578:3.9.19 584:20 585:15,25 587:3,5 604:14 605:7 610:22 612:20 614:19 618:13 624:12 625:10, 11

**testing** 495:21

text 565:10

**theaters** 549:25

theme 617:25

theory 542:25 551:16

there'd 581:21

thing 457:15 476:12 485:16 487:21 504:16 534:2 555:4,13 590:19 591:22 593:4,24 602:13 608:21 616:15 619:1 626:15 627:7

things 455:9 460:24 464:12 476:5,19 492:21 493:6 499:3 506:9 561:13 590:21 593:4 597:9,11,16 602:4 608:5 611:9,11 612:4 616:5 618:24 621:17

**thinking** 454:2 455:7 500:5 594:6 626:14

third-party 465:25 530:14 615:12

**thought** 506:6 511:3 515:24

**thoughts** 502:18,24 503:4 506:3 589:3

**thousands** 526:19 607:19

**throw** 561:5 585:7 599:12

throwing 523:21 531:21 555:24 561:20 562:24 611:11 612:1 617:22

thrown 488:22 618:23

**Thursday** 515:23,25

tie 538:3

tied 600:15 617:9

Tim 454:6 595:6

time 451:10 455:12 467:3 476:16 482:8,23 488:14 494:18 498:17 499:8,16 502:11,17,22 503:1 505:11 506:12 508:22,25 509:1,2,4 511:6,10 521:12 530:3 532:2 533:10,12 540:20 541:25 542:6 552:15 568:24 570:22 586:22,25 587:12,19 588:3 591:9,14,18 592:10 593:16,21 600:4,9,15,23 601:1 602:16 610:2,23,24 618:17 619:2,17 626:18

**times** 569:19 589:7

timing 601:6

**Timothy** 475:14

title 621:24

today 451:2,19 454:8, 9 457:4 469:19 474:14 482:1 517:17 535:22 570:7 574:5 586:18 612:21 616:7 621:4

**told** 452:19,24 453:2 519:6

ton 529:12

**top** 462:15 522:2 531:21 580:7 594:2

621:24

**topic** 495:24 499:25 541:23 592:25 593:6 609:15 610:9

topics 542:1

total 488:22,24 499:8 509:14 510:9,11 517:7 519:12 520:19 531:7 576:18,22,23 577:2 578:16 579:1 581:13 582:7 583:10 606:24

totality 506:14

totally 489:11

**TOU** 485:6 488:16 492:21 503:3,8 509:5 587:1 588:16,17

touched 601:17

tough 602:16

**town** 487:9 568:17 570:18

tracks 487:8,9,14

tract 487:14

**transcript** 626:19 627:15

transcripts 618:25

Transformation 529:2,19

**transit** 485:14,19 504:10 505:18 547:7, 11,17,22 548:3 549:2, 9.12.14

transition 536:8

**transportation** 451:6 465:1 484:18 485:15, 17 508:19 574:18 575:5 590:7 609:20 610:19 622:1

**treatment** 523:11,12 525:18 596:8

trenching 592:8

tribunal 620:4

trouble 452:4

**true** 457:7 469:22 474:17 482:5 495:16 517:12 583:1

trump 591:5

**Tuesday** 520:8 523:24 528:17 554:18 562:5

**turn** 458:14 490:19 491:14 499:13 548:6 575:3,24,25 577:7

**turning** 463:15 476:11 510:13 524:20 528:16 545:17 546:1, 12 547:21 548:16

turnover 500:17

**TV** 599:11

twofold 528:7

**type** 461:14 462:22,23 580:13 617:15

types 608:7,13,14

**typically** 560:15 592:7

U

**U.S.** 536:9

**ubiquitous** 526:14, 23 559:3 560:2 566:16,22 571:9 609:24

**Uh-huh** 566:25 579:12

**UL** 495:19

ultimately 590:14 619:6 621:3

unaware 598:7

unbeknownst 590:12

uncertainty 589:18

underlying 511:16,

**underscores** 601:9 616:18

understand 459:2 463:3 484:12 492:25 496:7,15 525:3 576:16 577:13,17 586:1 612:15,21 622:22 626:8,10

understanding

459:13 463:11 470:15, 19 494:20 502:2 510:16,23 527:14 535:4 540:17 552:13 553:3,18,25 554:8 557:3 560:12 568:5 570:8 589:19 590:11 601:4 602:5 610:17 611:3 612:13 619:18 624:25

understood 477:3 494:2 497:16 576:4 578:19 586:3,7

Underwriters 495:20

**unduly** 503:1

Unequivocally 530:18

unfairly 613:7

unidentified 510:3

unintended 488:9,10

**unique** 523:10 590:20 596:9

unit 463:20 501:20

**United** 536:18

units 599:18

University 552:21

**unknown** 497:13 626:18

**unknowns** 486:21

unmanaged 506:16

unnecessary 506:5

unprecedented

590:3

unsubstantiated 476:21 479:8

unsupported 476:22

upcoming 587:9 614:14

**update** 578:9

**updated** 522:18 574:23,24 575:1 578:10 608:18

upgrades 459:14

**upkeep** 531:6

upward 535:24

**usage** 496:20,22 497:14 600:12 609:17

usual 621:20

**utilities** 503:6 509:12, 17,19 510:17 521:25 522:6 533:15 535:9 537:4 613:5

**utility** 509:18,21,24, 25 525:5,12 527:24 528:1 533:6 536:4 538:15 551:24 591:15

**utility's** 533:11 534:18

utilize 511:2 586:18

**utilized** 465:25 531:3 586:18

utilizing 616:14

V

valuation 617:8.9

values 476:9

variable 626:21

variety 530:24

vary 609:15

**vast** 526:12 558:8 614:18

**vehicle** 463:4,16,20 464:5,11 484:18 485:8

486:3,8 488:6 489:11 501:8 517:6 524:18 526:5,8,15 528:11 539:7,10,15,25 540:8, 23 550:3,8 551:24 552:19,23 557:22 566:20 567:10 570:17 573:1 580:22 584:12 585:10 589:11,16 590:6 592:4,5,17 600:14 607:20 608:10 613:6

vehicles 484:23 517:7,8 520:20 521:4 523:1 524:7 532:1,18, 22,23 547:17 548:15 549:9,13,24 551:20 556:21,24 557:2,6,10 575:12,20 576:5,8,17, 18 577:15,21 579:5,6 580:23 581:1,2,5,9,11, 17,22,23 582:2,3,6,7, 12,22 583:1,2,6,10 584:1 586:12 598:12 602:11 608:7,13,14 609:12

verbatim 571:1 613:9

**verification** 512:13 594:14

verify 458:16 526:21

**version** 482:18 517:24 590:10

**versions** 481:6 482:10 561:20

**versus** 487:9,10 492:18 498:25 523:13 551:23 583:19 588:18

vetted 590:7

view 610:13

viewed 500:13

virtual 572:25

vis-à-vis 507:14

volatility 536:10

voltage 531:18 534:9

VW 465:21

#### W

**wait** 544:2 555:9 619:12

walk 586:1 606:8

walked 509:7

walks 498:18

wall 528:10

wanted 501:14 587:17 590:2 596:14 604:22 608:16 616:7 622:15

warranted 610:2

waste 541:25

watch 597:23

watching 619:2

Watt 593:16,21

ways 503:7 601:11

Webex 455:8 537:24 website 580:2,10

608:20

Wednesday 515:25 621:2

**week** 454:20,25 455:2 531:24 589:7 621:2 626:20

Weekends 627:5

weighted 590:1

**west** 451:23 509:22 517:8 535:12,13 575:11 579:23 614:12

**whatnot** 624:23

**Wilson** 490:22,23,24 491:19 492:1

**Wilson's** 491:11 492:6 496:4

winding 626:15

winter 538:21

**wireless** 531:15,17 616:14

wires 531:18

wisely 611:2

witness's 557:13

witnesses 451:17 454:22 455:12 457:25 466:6 507:6,8,11 513:21 522:23,25 589:8 591:19 592:21

Woods 536:6

Woodsmall 453:21, 22 460:1,3 472:3,5 478:8 489:17 532:12, 13,14 534:7 537:18,21 538:1,2 539:18,22 541:21,25 542:3,9,11 543:5,6,18,20,24 544:1,7,13,14,15,25 545:7,10,11 550:14,20 551:3 555:18 558:14, 18 559:19 562:14,15 563:7,18 565:16 572:8,19 610:15 623:18

word 575:22

words 618:21 625:11

**work** 452:8 465:9 466:24 495:10 516:10 526:13 527:24 552:2 555:24 558:9 579:19 588:18 590:21 599:6, 10

**worked** 554:23,24 555:15 556:16 588:17

working 503:6 532:17

**workpaper** 603:5 605:1 608:17,20

workpapers 459:11, 16 520:18 521:9 571:15 580:8 603:3,10 604:4,13,18 606:21 625:21 workplaces 567:4.25

**works** 465:4 506:12 597:18 603:9

workshop 552:20 613:17

workshops 526:7

world 531:15 610:20

worth 498:24 591:17

wrecked 589:17

wrong 462:18 565:17 607:18

#### Χ

**Xcel** 503:10 588:25 589:6,8,9,13,18,19 590:23 597:20,22

**Xcel's** 503:10 590:1 591:8

#### Υ

**ya** 588:11

year 479:21 488:23 520:23 555:11 578:15 581:5 582:23 583:8 591:24

**years** 522:13 526:21 531:16 535:12 561:21 587:7 591:16,24 601:5,7 616:5,6

yesterday 536:6

you-all 455:3 626:13

**Yuri** 535:14 556:7 590:25 614:15