

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF CALIFORNIA



**FILED**  
08/13/21  
08:54 AM

ADMINISTRATIVE LAW JUDGE KELLY A. HYMES, presiding

Order Instituting Rulemaking to  
Revisit Net Energy Metering Tariffs  
Pursuant to Decision 16-01-044, and  
to Address Other Issues Related to  
Net Energy Metering.

) EVIDENTIARY  
) HEARING  
)  
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) Rulemaking  
) 20-08-020  
)  
)

REPORTERS' TRANSCRIPT  
Virtual Proceeding  
August 3, 2021  
Pages 1053 - 1244  
Volume 7

Reported by: Doris Huaman, CSR No. 10538  
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VIRTUAL PROCEEDING

AUGUST 3, 2021 - 10:00 A.M.

\* \* \* \* \*

ALJ HYMES: We'll be on the record.

Good morning, everyone. This is the time and place for the continuation of the Evidentiary Hearing for Rulemaking 20-08-020, the Order Instituting Rulemaking to Review Net Energy Metering Tariff Pursuant to Decision 16-01-044 and to Address Other Issues Related to Net Energy Metering.

This evidentiary hearing is being held virtually through the use of the Webex platform as well as a telephone conference line. I'm Kelly Hymes, the assigned Administrative Law Judge to this proceeding. The assigned Commissioner is Martha Guzman Aceves.

Before we begin, I want to, once again, review the ground rules necessary due to the virtual nature of our evidentiary hearing. This evidentiary hearing is on the record, and a court reporter is transcribing the discussion for the official transcript. As such, the court reporter will interrupt the speaker, when possible to do so without disruption, when there is or are inaudible statements or portions thereof. When

1 disruption is not possible, the reporter will  
2 insert the word "inaudible" in the transcript  
3 when there is drops, garbled, or otherwise  
4 indecipherable audio.

5 I recognize that neither of these  
6 conditions are optimal; so to limit these  
7 conditions and ensure everyone is heard and  
8 the court reporter accurately transcribes  
9 statements made today and during the  
10 evidentiary hearing, participants shall  
11 adhere to following rules:

12 All attendees must mute their  
13 telephone line when not speaking;

14 Participants should speak only when  
15 addressed by the judge;

16 Speakers must identify themselves  
17 before speaking each time; however, during  
18 the course of direct and cross-examination of  
19 a witness, it is not necessary for the  
20 questioning attorney or the witness to  
21 restate their name each time.

22 Speakers must have both audio and  
23 video activated. You need to be visible when  
24 testifying and asking questions; however,  
25 only the judge and parties expected to speak  
26 during a particular portion of the hearing  
27 should have their cameras on;

28 Speakers must be speak slowly,



1 clearly and one at a time and should pause  
2 between statements, especially during the  
3 question-and-answer examination time. If  
4 someone else is speaking, you must not  
5 interrupt. And if you wish to speak, please  
6 raise your hand using the raised-hand button  
7 on the chat, and then I will call upon you.

8           Crosstalk must always be avoided.  
9 If there is any crosstalk, the court reporter  
10 may insert the word "crosstalk" in the  
11 transcript.

12           So moving on. The April 8th, 2021,  
13 ruling revised the schedule for this  
14 proceeding and established a date of August  
15 27th, 2021 to file opening briefs, and then  
16 September 10th, 2021, to file reply briefs  
17 through both an e-mail and verbally in  
18 hearing.

19           The Utility Reform Network, or TURN,  
20 requested a week extension of the briefing  
21 schedule in this proceeding to September 3rd  
22 for opening briefs and September 17th for  
23 reply briefs. Before we began yesterday --  
24 and that's off the record -- I granted an  
25 extension of several days.

26           To ensure all parties are aware of  
27 this extension, I will repeat the extension  
28 here on the record: Opening briefs shall be

1 due on August 31st, 2021, and reply briefs  
2 shall be due on September 14th, 2021. This  
3 results in the same number of days between  
4 the end of hearings and the briefing dates as  
5 was previously in the schedule.

6 So moving on to cross-examination  
7 exhibits. Prior to going on the record,  
8 parties provided additional exhibits to be  
9 identified and marked for the record. They  
10 are as follows: IEP-03; this is a  
11 cross-exhibit; the title is "USDA Land Values  
12 2019 Summary."

13 I also have TRN-10, also a  
14 cross-exhibit, entitled: "Responsive of SEIA  
15 and Vote Solar to TURN's Data Request No. 1  
16 and No. 2."

17 Next is TRN-11, also a  
18 cross-exhibit, entitled: "Excerpts from PG&E  
19 2021 General Rate Case, Prepared Testimony,  
20 Exhibit PG&E-12."

21 And then I also have an impeachment  
22 exhibit, TRN-12. This is entitled, "The  
23 Revised Application For Solar Share Program  
24 from the Sacramento Metropolitan Utility  
25 District," dated January 17th, 2020.

26 (Exhibit No. IEP-03 was marked for  
27 identification.)

28 (Exhibit Nos. TRN-10, TRN-11, TRN-12  
were marked for identification.)

1 ALJ HYMES: Are there any other  
2 exhibits to be identified for today? Please  
3 raise your hand if there are.

4 (No response.)

5 ALJ HYMES: Okay. Seeing no further  
6 exhibits, let's move on to our schedule for  
7 today.

8 Our witness cross-examination  
9 schedule for today includes the continued  
10 cross-examination of the panel of Heavner and  
11 Plaisted from CALSSA, and that will followed  
12 late this afternoon by Witness Beach from  
13 SEIA Vote Solar.

14 Both witnesses, Heavner and  
15 Plaisted, remain under oath; and, therefore,  
16 do not need to reiterate the attestations.

17 When it's time for Mr. Beach to  
18 begin cross-examination, I will ask him  
19 whether he agrees to these attestations. So  
20 let's go off the record to make sure we have  
21 everyone in place.

22 (Off the record.)

23 ALJ HYMES: Let's go back on the  
24 record. Mr. Parker, you may begin.

25 MR. PARKER: Thank you, your Honor.

26 BRAD HEAVNER AND JOSHUA PLAISTED,  
27 called as a witness by The California  
28 Solar and Storage Association, having  
previously been sworn, testified as  
follows:

1 CROSS-EXAMINATION

2 BY MR. PARKER:

3 Q The first question is kind of just  
4 to make sure I pronounce the names right. Is  
5 it Mr. Heavner or Mr. Heavner?

6 WITNESS HEAVNER: Heavner.

7 Q Thank you, sir.

8 And is it Mr. Plaisted or Plaisted?

9 WITNESS PLAISTED: Plaisted.

10 Q Thank you so much. I didn't want  
11 to insult you by mispronouncing your names.

12 I'm going to start off first with  
13 reflections on your background of your  
14 respective CVs.

15 So I'll start with you first,  
16 Mr. Heavner. Your CV was prepared or  
17 attached as Attachment No. 2 to Exhibit  
18 CSA-01, the Prepared Direct Testimony. You  
19 probably know it by heart, but if you want,  
20 you can pull that up if you want to refer to  
21 it. Just let me know if you have it in front  
22 of you.

23 WITNESS HEAVNER: I'm sorry. I didn't  
24 have it ready to go, but let me pull it up.

25 Q No problem, sir.

26 A Okay. I'm there.

27 Q All right. Thank you.

28 So taking a quick gander at it, I

1 just want to go through a few items to make  
2 sure I understand your background. First of  
3 all is your CV in this document a complete  
4 record of your educational background and  
5 experience?

6 A Yes.

7 Q So I guess my next question is, do  
8 you have or have you received any graduate or  
9 postgraduate degree in electrical  
10 engineering, physics, or any other scientific  
11 field directly related to the generation,  
12 transmission, or distribution of electricity?

13 A No, I haven't.

14 Q Do you have any formal education in  
15 finance or accounting?

16 A No.

17 Q Your CV includes a gap of seven  
18 years between the years 1990 and '97. Did  
19 you work during that period?

20 A I did. So I apologize. Earlier  
21 you asked if this was a complete  
22 representation, and it is as complete as a CV  
23 typically is, but it doesn't include  
24 everything. So I can explain what I did in  
25 those years if you'd like.

26 Q You were working. Were you working  
27 in anything related to the energy sector:  
28 Solar energy, renewables, fossil fuels,

1 anything that would mesh with your current  
2 role?

3 A No. I was working as an educator  
4 and a radio producer.

5 Q Fair enough. I just wanted to  
6 complete the circle. Have you ever worked  
7 for a solar company in the private sector?

8 A Just the one that's listed there,  
9 Solmentum.

10 Q Okay, sir. And if I understand  
11 correctly from the CV, you worked there for  
12 possibly four to five months?

13 A That's right.

14 Q And your title at the company was  
15 vice-president?

16 A Yes. ]

17 Q I see from the language in the CV  
18 that you helped Solmentum, quote, "refine its  
19 model for marketing solar power." If I  
20 understand correctly, does this mean that you  
21 helped Solmentum enhance its ability to sell  
22 its solar power?

23 (Interruption by reporter.)

24 BY MR. PARKER:

25 Q So to repeat the question, sir, I  
26 see you helped Solmentum, quote, "refine its  
27 model for marketing solar power." Does this  
28 mean you helped Solmentum enhance its ability

1 to sell solar power?

2 A This was a small start-up company  
3 that didn't last long, and its purpose was  
4 outreach to customers. So I helped in many  
5 ways to try to get this company off the  
6 ground, but it was primarily a customer  
7 outreach company.

8 Q So would it be safe to say it was a  
9 marketing and sales sort of role?

10 A That would be a fair way to  
11 describe it.

12 Q Okay, sir. Thank you. And what is  
13 your current title and role at CALSSA?

14 A I'm the policy director. I covered  
15 the range of -- excuse me?

16 Q I'm sorry. Go ahead, sir. I  
17 didn't mean to step on you.

18 A I cover a range of issues focused  
19 primarily at the California Public Utilities  
20 Commission and the state legislature. I also  
21 oversee staff that work at the California  
22 Energy Commission, the Contractor State  
23 Licensing Bureau, the board and other  
24 agencies in addition to local jurisdictions.

25 Q Okay, sir. Thank you. And how  
26 long have you worked at CALSSA?

27 A Seven-plus years.

28 Q Okay. Do you know how many member

1 companies CALSSA had?

2 A We currently have approximately 640  
3 member companies.

4 Q Okay. And do any of the 640 member  
5 companies engage in the sale for marketing of  
6 solar equipment, photovoltaic panels,  
7 ancillary equipment to homeowners and private  
8 residences?

9 A About half of those members are  
10 contractors that actually install and sell  
11 solar to customers. The other half are the  
12 whole rest of the industry from manufacturers  
13 to distributors, researchers, consultants of  
14 many sorts, financiers.

15 Q Okay. So you would agree that many  
16 of CALSSA's members make money by selling  
17 such equipment or installing the same on  
18 residences and commercial offices?

19 A Yes.

20 Q On your CV, you describe your role  
21 as developing policy proposals for the  
22 long-term development of solar market; is  
23 that correct?

24 A Yes.

25 Q When you wrote the phrase  
26 "developing solar markets" on your CV, did  
27 you mean helping CALSSA's solar company  
28 members grow their photovoltaic and ancillary



1 equipment sales market and thereby increase  
2 sales revenues and profits?

3 A We're not focused on the revenue of  
4 any one company or set of companies. What --  
5 the meaning of that is to create rules for a  
6 fair amount marketplace in which companies  
7 are able to survive and do business.

8 Q Okay. Thank you, sir. Last  
9 question on your background, sir. Last  
10 couple of questions. Have you ever worked  
11 for a private sector wind power installation  
12 capacity in any -- company in any capacity?

13 A No. When I was working with -- in  
14 Maryland, I worked with wind companies  
15 closely and promoting policies primarily for  
16 offshore wind development but also for  
17 renewable portfolio standards that include  
18 onshore wind. So I was closely involved with  
19 several wind companies within that work for  
20 them.

21 Q When you say "closely involved,"  
22 were you a consultant?

23 A No. I was not paid by them in any  
24 way. It was just simply a partner in our  
25 activities.

26 Q Okay. All right, sir. Thank you.  
27 My next questions will be for Mr. Plaisted on  
28 his CV and his background.

1           One moment, sir, while I pull up  
2 the question. Mr. Plaisted, I just want to  
3 make sure that the copy of the CV in Exhibit  
4 CSA-01, which is enclosed -- or included in  
5 that document as Attachment 3 -- do you have  
6 that before you?

7           WITNESS Plaisted: Yes, I do.

8           Q    Okay. And is that -- is that CV a  
9 complete record of your educational  
10 background and experience?

11          A    To the best of my knowledge, yes.

12          Q    All right, sir. Thank you. Your  
13 CV indicates you served as the lead design  
14 engineer at SunEarth from 2000 to 2002; is  
15 that correct, sir?

16          A    Yes, that is correct.

17          Q    And what was SunEarth's primary  
18 business? How did they make money?

19          A    Yeah. SunEarth was a solar thermal  
20 manufacturer of solar water heating  
21 equipment. So they were a manufacturer that  
22 sells to dealers and distributors for the  
23 solar water heating market.

24          Q    So you would say that their primary  
25 business was focused on the supply of solar  
26 energy equipment to customers?

27          A    Well, through a dealer channel and  
28 distribution channel, yes.

1           Q    Okay, sir.  Is it fair to say that  
2   SunEarth's product line -- basically it was  
3   only the manufacture and sale of solar  
4   renewable energy products and not renewable  
5   energy products of other kinds, like wind or,  
6   say, hydro?

7           A    Yes.  Correct.  Yes.  Solar energy  
8   products, not wind or hydro.  Correct.

9           Q    Okay, sir.  Your CV also indicates  
10  you worked for Kineo -- I'll spell this for  
11  the record -- K-I-N-E-O, Design Group as a,  
12  quote, "principal," unquote?

13          A    Yes.

14          Q    What was the nature of your work at  
15  Kineo?

16          A    The nature of my work included  
17  several fronts.  I was the assistant design  
18  for a high-end residential water heating  
19  system.  I would support manufacturers on new  
20  product development and new product  
21  introduction.  I also taught classes on solar  
22  water heating and system design and  
23  installation for the Pacific Energy Center at  
24  PG&E.  I was an instructor for PG&E.

25          Q    Okay, sir.  So would it be safe to  
26  say that Kineo Design Group was a  
27  consultancy?

28          A    Yes.  That would be an accurate

1 representation.

2 Q Okay. And were they -- okay, sir.  
3 And they were a consultancy to, among others,  
4 the solar thermal sector?

5 A Yes. Kineo was primarily in the  
6 solar thermal sector later moved onto hybrid  
7 solar thermal and solar photovoltaic. I  
8 believe that's indicated in my CV. I was the  
9 principal investigator for National and  
10 Renewable Energy Labs in the US DOE.

11 Q Okay.

12 A During the same time frame.

13 Q All right then. In your current  
14 role, you are listed as a principal at  
15 Flagstaff Research. Is that correct, sir?

16 A That is correct.

17 Q Okay. Does Flagstaff Research  
18 engage in the business of bringing products  
19 to the global market to then distribute the  
20 next day?

21 A Sorry. Could you repeat that. You  
22 broke up slightly.

23 (Interruption by reporter.)

24 MR. PARKER: All right. One moment,  
25 please. I'm going to have to grab earphones.  
26 Your Honor, could I have 30 seconds to grab a  
27 set of earphones?

28 ALJ HYMES: Yes, you may.

1                   We'll be off the record.

2                   (Off the record.)

3                   ALJ HYMES: Let's go back on the  
4 record. Please proceed.

5 BY MR. PARKER:

6                   Q    Thank you, your Honor. I believe  
7 in my last question I asked -- you confirm  
8 that your current role is as a principle at  
9 Flagstaff Research and that you also confirm  
10 that Flagstaff Research engages in the  
11 business of bringing products to global  
12 markets in the distributed energy space.

13                   Is that a fair representation of  
14 your last responses?

15                   A    Yes, it would be.

16                   Q    Thank you, sir. I understand that  
17 Flagstaff Research is overseeing deployment  
18 of over 7,500 systems encompassing various  
19 technologies; is that correct?

20                   A    That's not Flagstaff Research. I  
21 believe you'd be referring to my work at  
22 SunEdison or Flextronics.

23                   Q    Okay. All right then. All right  
24 then. That's the last of the questions on  
25 your respected background. Now I'd like to  
26 ask the panel -- I have several questions on,  
27 say, the issues of NEM cost-effectiveness,  
28 and I would like to know who would be the --

1 who among the two witnesses I should direct  
2 my questions to, or should I direct it to  
3 both of you and you decide which of you will  
4 answer?

5 WITNESS HEAVNER: I think the way we're  
6 going to go about this is I will take the  
7 questions. And to the extent that I think  
8 Mr. Plaisted would better answer them, I will  
9 pass it to him in order to ensure that we're  
10 not talking over each other.

11 Q Okay, sir. Thank you. All right.  
12 If you would -- would you bring up or turn to  
13 Exhibit CSA-01, page 78.

14 A Okay. I'm there.

15 Q All right. I'm just getting there  
16 myself. All right then. Let me ask first,  
17 as a general rule -- more as sort of a  
18 general question, here on page 78, you're  
19 making -- you're discussing the  
20 cost-effectiveness of your proposal. And one  
21 of the questions that more or less came up --  
22 that popped up in our minds was whether or  
23 not you understood -- you know, whether --  
24 the question I'm going to ask you is to  
25 your -- to the best of your knowledge, do  
26 solar providers advertise on-site energy use  
27 from their system as one of the benefits of  
28 the current NEM program?

1           A     I think there is a wide range of  
2     how the benefits of solar are explained. The  
3     most important thing in the end is the  
4     expected savings year-by-year.                                 ]

5           Q     And by "expected savings," you mean  
6     expected bill savings?

7           A     That's right. The customer will  
8     naturally compare bill reduction to system  
9     costs.

10          Q     Okay. So bill savings from an  
11     onsite energy use of a ratepayer system is  
12     one of the critical benefits of the current  
13     NEM tariffs?

14          A     Bill savings from self-generation  
15     exists with or without NEM. And customers  
16     will self-generate with or without NEM.

17          Q     Okay. So, if I understand  
18     correctly, one of the benefits of  
19     self-generation, whether it's under NEM or  
20     not under NEM, is that it reduces customer's  
21     use of energy from their own energy  
22     providers?

23          A     That is correct. They produce --  
24     they purchase less electricity from the  
25     utility.

26          Q     Okay. Are you familiar with the  
27     Ratepayer Impact Measure, often abbreviated  
28     R-I-, M as in "Mike," -- it's a test, so I'll

1 call it the Ratepayer Impact Measure test?

2 A Yes, I am.

3 Q To the best of your knowledge, what  
4 is the purpose of the RIM test?

5 A It is to compare all the costs and  
6 all the benefits of a program to ratepayers  
7 as a whole.

8 Q Would those cost benefits also  
9 include a determination whether a customer's  
10 rates may go up or down with the  
11 implementation of any new program?

12 A It doesn't measure impact on rates.  
13 It measures costs and benefits of a program.

14 Q Is it your understanding that the  
15 RIM test is -- is described and adopted as a  
16 practice in the Commission's Standard  
17 Practice Manual?

18 A Yes.

19 Q Does the Standard Practice Manual  
20 state that the RIM test is supposed to define  
21 the impact of any program on a customer's  
22 service, of the expenses and costs they incur  
23 in such service, et cetera?

24 A Yes. And the question is how you  
25 define that program. It's measuring cost and  
26 benefits of the program.

27 Q Okay. Does any analysis pursuant  
28 to the Standard Practice Manual include



1 decreased revenues for periods in which the  
2 load has been decreased in calculating the  
3 RIM test?

4 A What do you mean by "the load"?

5 Q Let's say reduced load as a result  
6 of the program.

7 A Whose loads?

8 Q Well, par- -- let's say the overall  
9 demand of the participants -- overall number  
10 of participants in the program.

11 A Okay. Can you restate the  
12 question, please?

13 Q Sure.

14 So, does the analysis pursuant to  
15 the Standard Practice Manual include, say,  
16 decreased revenues for periods in which  
17 customer consumption or the number of people  
18 who are drawing on the system, drawing power  
19 and consuming electricity from the system,  
20 has decreased -- is that -- does the Standard  
21 Practice Manual analysis include that kind of  
22 analysis in calculating whether or not such  
23 -- a program passes the RIM test?

24 A Again, it's a matter of how you  
25 define the program. And, clearly, you're  
26 getting at the difference between measuring  
27 our generation versus export rim. Both are  
28 legitimate uses of the RIM tests under

1 different interpretations of what the program  
2 is that you're evaluating. And the  
3 Commission has historically looked at both  
4 tests. We would expect them in this  
5 proceeding to consider both tests.

6 Q Is it your observation that as a  
7 result of the adoption of solar by large  
8 numbers of Californians under the current NEM  
9 tariffs, that that has resulted in decreased  
10 revenues to IOUs by reducing the load due to  
11 -- because of onsite consumption?

12 A I'm sorry. Can you restate the  
13 question? It's not clear to me what is being  
14 evaluated here in the question.

15 Q Okay. Does the adoption of -- does  
16 the large-scale adoption -- well, let me  
17 rephrase. Okay?

18 So, have the current NEM programs  
19 reduced load to the IOUs and, thus, revenue  
20 to the IOUs due to onsite consumptions?

21 A Well, how much does the NEM program  
22 result in self-generation that wouldn't  
23 otherwise happen? That's a question that has  
24 not been asked or answered. So --

25 Q To the --

26 A When measuring the reduced utility  
27 revenue that happens from customer adoption  
28 of solar, it's important to consider that

1 it's not all the results directly of the NEM  
2 program. Certainly, all the exports can be  
3 attributed to the NEM program and some  
4 portion of self-generation.

5 Q So just to clarify, are you saying  
6 that without NEM -- the current NEM tariffs,  
7 there would still be significant adoption of  
8 rooftop solar?

9 A There would be self-generation,  
10 absolutely. What is significant? That's a  
11 very difficult question.

12 Q Have you ever attempted to  
13 quantify, in your analysis for CALSSA, the  
14 amounts of solar generation that you believe  
15 would have existed regardless of the  
16 existence of NEM?

17 A No. And if -- it's a question I  
18 don't -- it's not a good question be- -- it's  
19 an important question. But it's -- has some  
20 unfortunate pieces to it. Because the  
21 customers that would still be self-generating  
22 without NEM would likely trend more towards  
23 high-income customers.

24 One benefit of NEM is, it makes  
25 solar more universally available. So I hope  
26 we don't really have to ask the question of,  
27 you know, who exactly it is that will be  
28 adopting solar, if it's only based on

1 self-generation.

2 Q Hmm. Okay.

3 If you would, please turn to  
4 page 79 of your opening testimony?

5 A I'm there.

6 Q Okay. One moment, sir.

7 I see here that on line 1 it states:

8 It is important to be clear that  
9 CALSSA calculates RIM based on  
10 exports to the grid. Other  
11 parties in the proceeding, as well  
12 as E3 calculate RIM in a way that  
13 includes self-generation. Net  
14 metering is a tariff that gets  
15 credits for exports to the grid  
16 and should be measured as such.

17 Is that an accurate reading of  
18 what's in your analysis?

19 A It is. We wanted to be perfectly  
20 transparent about the analysis we were doing.

21 Q To the best of your knowledge, is  
22 CALSSA's RIM score aligned with California  
23 Public Utilities Commission policy,  
24 specifically according to the Standard  
25 Practice Manual?

26 A Again, it depends on your  
27 interpretation of what the program is that  
28 you're evaluating. So I think both tests are

1 legitimate uses of the Standard Practice  
2 Manual.

3 Q Okay. One question on -- with  
4 regard to the Standard Practice Manual, I  
5 notice that on page 78 -- so just go back one  
6 page. You did cite to the Commission's  
7 practice manual. And I think you'll see --  
8 you'll see that in the last sentence of the  
9 first paragraph there.

10 Do you see that?

11 A I do.

12 MR. LINDL: Your Honor, this is --

13 (Poor audio connection.)

14 (Court reporter.)

15 MR. LINDL: I'm actually having trouble  
16 hearing the court reporter. So if she asked  
17 for me, my apologies if you couldn't hear it.

18 I was just asking for a line number.  
19 When we turn to a page, it would just be  
20 helpful to get a line number so we are all on  
21 the same place right away.

22 MR. PARKER: Sure. Sure. The line  
23 numbers you want to look at are line numbers  
24 5 through 7. It's the last sentence of the  
25 first paragraph.

26 MR. LINDL: Thank you.

27 MR. PARKER: No problem, sir. Sorry.

28 Q Mister -- sorry.

1           Mr. Heavner, you were saying that  
2     it does, in fact, include a statement here  
3     about the Standard Practice Manual?

4           WITNESS HEAVNER: Yes.

5           Q     Okay. Is there a particular reason  
6     why you did not add a footnote or citation to  
7     the Standard Practice Manual here?

8           A     No.

9           Q     Okay. My -- I guess my next  
10    question is, have you read the Standard  
11    Practice Manual? I just want to understand  
12    if you've read it or not.

13          A     Yes.

14          Q     Okay. Is CALSSA's calculation in  
15    alignment with the Standard Practice Manual's  
16    statement that the RIM score for a program is  
17    calculated using, and I quote, "The decreased  
18    revenues for any periods in which load has  
19    been decreased," unquote?

20          MR. LINDL: Your Honor, I have to  
21    object for lack of foundation. We don't know  
22    if that's a quote or not from the Standard  
23    Practice Manual. It's not in front of  
24    witness.

25          ALJ HYMES: Sustained.

26          MR. PARKER: All right then. That's --  
27    okay.

28          Q     You don't have the Standard

1 Practice Manual in front of you, but you did  
2 testify that you had read the manual.

3 So let me ask you this:

4 Does the practice manual actually  
5 state that to determine the RIM score for a  
6 particular program, you're supposed to take  
7 into account the decreased revenues for any  
8 periods in which a load has been decreased?

9 WITNESS HEAVNER: It's been a long time  
10 since I read that in detail. I -- I read the  
11 Standard Practice Manual in detail some years  
12 ago. I reviewed it as preparing this  
13 testimony. I would say that the one -- that  
14 one reason that we found legitimacy in  
15 calculating the export-only rim is that it is  
16 something that the Commission has considered  
17 for the purpose of evaluating NEM in the  
18 past.

19 Q Okay. All right.

20 How long ago did -- do you recall  
21 reading the Standard Practice Manual? ]

22 A Well, I've reviewed it some months  
23 ago. I read it in closer detail prior to  
24 that.

25 Q All right then.

26 My next questions are going to be  
27 on issues related to decarbonization goals  
28 and other renewable procurement, and I would

1 refer you to your rebuttal testimony, which  
2 has been marked as Exhibit CSA-02. Please  
3 bring up that document and turn to page 14.

4 A I'm there.

5 Q Let me catch up with you here.  
6 Could you please read aloud lines 10 through  
7 17.

8 A Cal Advocates claims that the  
9 Title 24 New Home Solar Mandate  
10 will guarantee growth in solar.  
11 Cal Advocates' testimony states  
12 with this mandate the solar  
13 industry in California will see  
14 significant guaranteed sales over  
15 the coming years, insuring  
16 sustainable growth in solar  
17 penetration regardless of how the  
18 Commission chooses to reform the  
19 NEM tariff. The successor tariff  
20 can be reformed to reflect this  
21 inevitability, end quote.  
22 NRDC testimony states, quote,  
23 growth of distributed generation  
24 is guaranteed due to Title 24  
25 requirements and due to the  
26 continuance of low income solar  
27 initiatives such as solar on  
28 multi-family affording housing or



1                   SOMAH, end quote. These  
2                   statements are incorrect.

3           Q     To the best of your knowledge, does  
4 the California Energy Commission or did the  
5 California Energy Commission retain E-3 to  
6 conduct a mandated cost-effectiveness  
7 analysis?

8           A     Yes.

9           Q     To the best of your knowledge, did  
10 Cal Advocates in its testimony propose  
11 compensating solar panels at avoided cost for  
12 self-consumption?

13          A     Cal Advocates proposed allowing  
14 customers to realize bill reduction from  
15 self-consumption at less than retail rates  
16 and something much closer to measured avoided  
17 costs.

18          Q     And did the E-3 analysis you cited  
19 in your testimony, did that E-3 analysis  
20 analyze Cal Advocates NEM tariff reform  
21 proposal?

22          A     It measured a sensitivity, a  
23 potential NEM reform -- two potential NEM  
24 reforms, one of which was avoided costs for  
25 exports and avoided costs for  
26 self-generation. The value that they used  
27 for avoided costs was not disclosed. It was  
28 done by E-3 in 2017; so we can presume it is

1 a higher value than the 2021 ACC, Avoided  
2 Cost Calculator.

3 Q We can assume that, but we can't  
4 confirm whether or not they actually used the  
5 Cal Advocates' NEM Tariff Reform Proposal;  
6 correct?

7 A They clearly didn't use the Cal  
8 Advocates' proposal itself because that  
9 proposal had not yet been made.

10 Q Okay.

11 A But we believe that they modeled  
12 something that is very similar to that  
13 proposal.

14 Q Okay. Would you please turn to  
15 page 20 of the same document.

16 A Okay. I'm there.

17 Q Okay. I'm sorry. I meant page 46  
18 and I want you to look at Table 20. My  
19 apologies for the confusion.

20 MR. LINDL: Counselor, this is Tim  
21 Lindl for CALSSA. Are we on what has been  
22 premarked PAO-07?

23 (Crosstalk.)

24 MR. PARKER: Hold on for just a second.  
25 I'm trying to sort this out. All right. I  
26 made a mistake. My apologies.

27 Mr. Heavner and Mr. Plaisted, do you  
28 have before you Exhibit PAO-07?

1 WITNESS HEAVNER: I do.

2 BY MR. PARKER:

3 Q Could you turn to page 15.

4 A Is there a table number? I'm now  
5 looking at the PDF page number.

6 Q Hold on for just a second. It's  
7 the final page of the PDF. You will go to  
8 the last page of the PDF document. You will  
9 see there a table labeled "Table 20."

10 A I see it.

11 Q Okay. Do you agree that this table  
12 shows the result of the rather extreme,  
13 bookend scenario of cost-effectiveness for  
14 cost of saving rooftop solar at avoided cost  
15 for both self-consumption and exports?

16 MR. LINDL: Objection, your Honor. The  
17 question is argumentative using the term  
18 "rather extreme."

19 ALJ HYMES: Please, restate.

20 MR. PARKER: Thank you.

21 Q Do you agree that this shows the  
22 results of the bookend scenario of  
23 cost-effectiveness for compensating rooftop  
24 solar at avoided cost for both  
25 self-consumption and exports?

26 A Yes.

27 Q Do you see any scores in this  
28 table, Table 20, that are a score greater

1     than one?

2             A     There is one.

3             Q     There's a score greater than one in  
4     the last column, Benefit-to-Cost Ratio?

5             A     Yes. It is for Climate Zone 14.

6             Q     Okay. And how many other  
7     benefit-to-cost ratios do you see that are at  
8     a score of one?

9             A     Ten.

10            Q     All right, then. Do you know how  
11     many years the lifecycle analysis for the  
12     Title 24 Solar Mandate is accounted for?

13            A     I believe it is a 30-year analysis  
14     to match the 30-year term of a typical  
15     residential mortgage. So that means that to  
16     achieve a cost benefit of 1.0 costs, and  
17     benefits would be equal over a 30-year  
18     period. And so this, obviously, is  
19     extremely -- even though it's at a 1.0 APR,  
20     are extremely marginal cost-effectiveness and  
21     I would never envision Commissioners of the  
22     California Energy Commission approving a  
23     mandate on all customers that has a 30-year  
24     cost to benefit of 1.0. It's too tight.

25                     This is a mandate that they're  
26     putting on every California home buyer of a  
27     new home. To have a mandate on everyone,  
28     there needs to be a comfortable margin to

1 demonstrate that the customers aren't getting  
2 harmed.

3 A cost-to-benefit ratio of 1.0 or  
4 1.2 is too close to the line, and is not the  
5 type of threshold that I believe the  
6 Commissioners were considering when they  
7 passed the mandate.

8 And, Mr. Plaisted, I should  
9 probably pass this to you because you've  
10 looked at this and had some experience here.

11 WITNESS PLAISTED: Yeah. I mean, it's  
12 cost-effective for the homeowners; right.  
13 And I would agree that it is on the margin.

14 As you stated previously, I believe  
15 the analysis was done in 2017, published in  
16 January of 2018, under a different ACC.

17 I also do not see evidence that they  
18 would have incorporated rate benefit charges,  
19 any type of fixed charges, currently being  
20 proposed under the Joint IOU proposal or some  
21 other proposal. So it is marginal at best.

22 Furthermore, I think the California  
23 Commission used a low discount rate, 3  
24 percent so that future savings were  
25 treated -- in a good context whether the  
26 customer would accept a 3 percent discount  
27 rate on a 30-year investment is up for  
28 debate. I believe our own testimony in this

1 proceeding uses a 6 percent discount rate.

2 So, again, it is in the preferences  
3 of working out the cost benefit and would  
4 probably -- it's marginal. It should be  
5 reevaluated. Does that --

6 Q Okay. Thank you. Thank you for  
7 your answers.

8 I will direct you to Exhibit  
9 PAO-07. Please pull that up if you don't  
10 already have it readily available, and I  
11 would direct you the 13th page of the PDF,  
12 which is labeled page 40 at the bottom. When  
13 you get there, let me know.

14 WITNESS HEAVNER: I'm there.

15 Q All right, sir. Would you please  
16 read into the record the first paragraph. I  
17 believe it reads "a measure is  
18 cost-effective."

19 MR. LINDL: I have on PDF page 13, page  
20 40, the third paragraph would start with:  
21 "According to Energy Commission definition";  
22 am I on the wrong page?

23 MR. PARKER: Yes. You're in the right  
24 spot, Mr. Lindl.

25 MR. LINDL: Okay. I understand.

26 WITNESS HEAVNER: According to Energy  
27 Commission's definition, a measure  
28 is cost-effective if the

1           benefit-to-cost, BC ratio, is  
2           greater than 1.0. The BC ratio is  
3           calculated by dividing the total  
4           present lifecycle cost benefit by  
5           the present value of the total  
6           incremental cost.

7 BY MR. PARKER:

8           Q     Thank you.

9           A     I should point out that the  
10          cost-benefit ratio that they actually  
11          considered for the mandate under NEM 2  
12          averaged around 2.0 across the climate zone.

13                So that was what the Commissioners  
14          were considering should they adopt a mandate  
15          with a cost-effectiveness of 2.0, and with  
16          the strong opposition from the California  
17          Home Builders Association and others, it was  
18          very difficult for the Energy Commission to  
19          stand firm and pass this mandate on all  
20          Californians. It was a bold thing for them  
21          to do that was recognized around the world,  
22          and it has a lot of opposition. They did  
23          that when they were looking at a cost-benefit  
24          ratio of 2.0.

25                MR. PARKER: Your Honor, I would move  
26          to strike that last or second part of his  
27          answer. I asked him to simply read the text  
28          in an exhibit, and I got an explication that

1 that was never asked for.

2 ALJ HYMES: I agree. Sustained.

3 BY MR. PARKER:

4 Q Let me ask, have you seen any  
5 proposals in the current proceeding whose  
6 30-year discounted savings would be less than  
7 their 30-year discounted cost?

8 A I don't know that anyone has done a  
9 30-year-cost-benefits analysis.

10 Q All right, sir. Let's shift  
11 subjects and discuss NEM adoption in  
12 disadvantaged communities. This is sort of a  
13 bird's eye view general question.

14 Let's start by first going to your  
15 rebuttal testimony. I believe this is CSA  
16 Exhibit 02, page 31, if you would go to  
17 there, please.

18 A I'm there.

19 Q Okay. And this on page 30 where  
20 you start a discussion of third-party  
21 ownership; is that correct?

22 A I'm not sure this is where I  
23 started that discussion, but the discussion  
24 is here.

25 (Crosstalk.)

26 BY MR. PARKER:

27 Q If you look page 30 -- if you go  
28 back to page 30, you'll see, you know,



1 Subsection 4, "Third-Party Ownership"; is  
2 that correct?

3 A Yes.

4 Q If you would, please, would you  
5 read the sentence that starts on line 9 and  
6 ends on line 11.

7 A Cal Advocates takes issue with  
8 third-party ownership, PPO models,  
9 for solar adoption by low income  
10 customers, specifically pointing  
11 to the higher rate of PPO  
12 arrangement for CARE customers'  
13 solar systems than for other  
14 customers.

15 Q For the ownership models, is it  
16 your understanding and to the best of your  
17 knowledge typical that in such ownership  
18 models, there's a Power Purchasing Agreement  
19 between the party leasing the solar equipment  
20 and the company that actually owns the  
21 equipment and installs it on the residence or  
22 the building?

23 A The Power Purchase Agreement is one  
24 of numerous different arrangements that can  
25 exist within third-party ownership models.

26 Q And what other arrangements have  
27 you seen in your work experience or  
28 personally have been involved in?

1           A     Josh, why don't you answer that.

2           WITNESS PLAISTED:   Sorry.   What was the  
3 question again?   Could you repeat?

4   BY MR. PARKER:

5           Q     Sure.   So Mr. Heavner was saying a  
6 Power Purchase Agreement was only one  
7 particular model for an agreement between the  
8 third-party provider of solar equipment and  
9 the lessee and indicated that there were  
10 other models.

11                     So, if you would, could you talk a  
12 little bit about the other models that you  
13 have seen that could be used in a third-party  
14 ownership scenario.

15           WITNESS PLAISTED:   Yes.   The most  
16 classic would be Solar Elite of a guaranteed  
17 payment, not a guaranteed dollar per  
18 kilowatt-hour, but also typically with a  
19 performance guarantee.

20                     So PPAs and leases would be the  
21 typical vehicle.   Of course, loans being  
22 another where the bank is a third-party  
23 owner, but not the solar provider.   So  
24 typically:   Cash, loan, lease, PPA.

25           Q     Okay.   When we talk about a lease,  
26 just to make sure we have this understood,  
27 just sort of the parameters of a, quote,  
28 "typical lease arrangement."

1           We have a homeowner approached by a  
2   company, a third-party operator, they lease  
3   the solar panels from the third-party  
4   operator; correct?

5           A    Well, they lease the entire system.  
6   The homeowner is leasing the system from the  
7   installer/operator.

8           Q    And the operator, they receive  
9   these lease payments. Are there any other  
10   financial benefits they get under such an  
11   arrangement?

12          A    From the consumer or from other  
13   parties?

14          Q    From other parties.

15          A    Under a lease, I mean, they'll have  
16   other stakeholders in those arrangements,  
17   usually backing banks. Classic examples  
18   would be Bank of America, Merrill Lynch,  
19   Goldman. So they are offering the lease  
20   using third-party financing to the end  
21   customer. Much like an auto dealer is  
22   operating a lease with an end customer.

23          Q    Now, with regard to a Power  
24   Purchasing Agreement, let's talk a little bit  
25   about those parameters of a typical Power  
26   Purchasing Agreement if such an animal  
27   exists.

28                   How do those parties normally --

1 what is the sort of the fundamental basis of  
2 that kind of a contractual relationship?

3 A I believe at its simplest basis  
4 from a customer advantage, a PPA is giving a  
5 guaranteed sell rate on the kilowatt-hours  
6 generated by the solar equipment, the Power  
7 Purchase Agreement purchased at a fixed  
8 generation price or one that may change over  
9 time.

10 A lease agreement is a fixed  
11 payment much like you're leasing a piece of  
12 equipment. Leases, however, do typically  
13 come with performance guarantees, which means  
14 that if the equipment does perform to  
15 specification, the guaranteed output, you are  
16 not required to pay the lease agreement. So  
17 the system installer and operator is  
18 providing a performance guarantee. In a  
19 similar way if your car stopped working, you  
20 wouldn't pay the leasing fee on the car.

21 Q All right. I know this is going to  
22 sound like a really obvious question, but I  
23 just want to get this on the record.

24 The solar panels that a PPA  
25 customer versus, say, a customer who bought  
26 their solar for cash versus a lease customer,  
27 those are, essentially, the same basic model  
28 photovoltaic cells and equipment; is that

1 correct?

2           A    Yes. They can vary by vendor, of  
3 course. There's some differentiation there,  
4 but as a general class of product, it is the  
5 same general class of product.

6           Q    All right then. And are the PPA  
7 customers' savings on their bill from their  
8 utility company any different from, say, that  
9 of a customer who purchased their panel?

10          A    There are different end customer  
11 economics, and, you know, among the different  
12 offers. Could you repeat your question again  
13 so I understand --

14          Q    I'm just wondering about the  
15 savings on their bill. So a PPA customer's  
16 bill savings then compared to that of, say, a  
17 customer who purchased their solar panels or  
18 one who is leasing their solar panels.

19          A    Yeah. Historically, it's been --  
20 if you read my CV, it's been four-to-six  
21 years since I've been at either Flextronics  
22 or SunEdison where we offered these financial  
23 models. So my knowledge on it will be dated  
24 to that time. Leasing or PPA, somewhat  
25 interchangeable, would be looking to provide  
26 something like a 10 percent monthly bill  
27 savings to a customer. That would be a  
28 typical target point.

1           A cash or a loan model, you're not  
2 looking at monthly savings because there's  
3 not a guarantee monthly savings. You're  
4 looking at payback. That's historically how  
5 the customers look at it. For cash and  
6 loans, they're looking at payback or  
7 guaranteed performance. And in leases and  
8 PPAs, they're looking at monthly savings.

9           Q     Pardon me. I'm a little confused  
10 because that conflicts with what Mr. Heavner  
11 said about bill savings being a critical  
12 component and why solar customers may  
13 adopt -- or customers may adopt solar. So  
14 I'm trying to understand the disconnect  
15 between the two of you.

16               Are you saying that bill savings  
17 for cash customers, if I understand  
18 correctly, are not important or not an  
19 important consideration of why they adopt  
20 solar?

21           A     Well, of course, for monthly or  
22 annual bill savings, there's no payback.  
23 It's two different approaches. Payback and  
24 monthly savings are two different metrics to  
25 look at, you know, at similar amounts of  
26 savings.

27           Q     Okay. But, let's say, you know, as  
28 far as the bills from the utility company, do

1 these customers receive the same savings on  
2 their utility bills?

3 A I mean, they're passed through to  
4 the customer as different ways much like a  
5 cash purchase of a car is from different from  
6 a leasing of a car.

7 So in terms of the cash purchase,  
8 the end customer is funding the entire  
9 financing of the purchase. There's big  
10 upfront investment, and then they'll get  
11 deeper annual savings monthly or annual  
12 savings because they provide the entire  
13 financing.

14 In a lease or PPA model, the  
15 financing is provided by a third party.  
16 They're taking their reasonable cut just like  
17 a car lease, and they're providing a  
18 guaranteed monthly savings to the customer.  
19 So it's a lower monthly savings when the  
20 customer sees it, but they did not provide  
21 any of the capital; so they are not looking  
22 for a payback. Does that make sense?

23 Q I understand what you're trying to  
24 say, but my question is -- we're talking  
25 about the bill from the utility company --  
26 my question is: Do the cash-purchase  
27 customers get the same savings on their  
28 utility bills as a PPA customer or a customer

1 who have leased their panels?

2 A I have not evaluated -- it's been a  
3 long time since I've evaluated exactly what  
4 the customer's bill looks like from both  
5 those methods. I can't answer that directly.

6 Q Let me ask you this --  
7 (Crosstalk.)

8 ALJ HYMES: Please, one at a time.

9 BY MR. PARKER:

10 Q Mr. Heavner, I think he was  
11 referring me to you. So I'm wondering if you  
12 have a response.

13 WITNESS HEAVNER: Oh, I didn't hear  
14 that. Please restate the question.

15 Q The question is, basically, the  
16 bill savings for a customer who has purchased  
17 their solar photovoltaic cells, a PPA  
18 customer or a customer leasing, their bill  
19 from the utility company and the savings on  
20 that in all three categories, the bill  
21 savings would be the same all else being  
22 equal. Would you agree with that?

23 A The bill savings is a factor of the  
24 system generation, and if the system size and  
25 the generation, the actual utility bill, the  
26 amount that the customer pays to the utility,  
27 should only depend on the system size and  
28 performance. The overall economics,



1 obviously, brings in the finance.

2 Q Okay. But if, say, everything is  
3 equal, the same size system, the same amount  
4 of power generated -- let's say everything is  
5 equal for each of these three categories of  
6 customers. Will the bill savings on their  
7 bill be the same?

8 A The amount they pay to the electric  
9 utility would be the same, yes.

10 Q Okay. Thank you, sir. A question  
11 for either one of you. I'm not sure who I  
12 should direct the question to.

13 Is the reduction itself to the  
14 utility company, because of the  
15 self-generation on site, the same under a  
16 Power Purchasing Agreement as it is under,  
17 say, an owner who bought their panels?

18 A I think the answer is the same as  
19 to the last question that it's solely a  
20 matter of the system size --

21 (Reporter clarification.)

22 WITNESS HEAVNER: I believe the answer  
23 is the same as it was to the previous  
24 question. It's solely a function of the  
25 system size and performance. If the customer  
26 is paying less to the utility, the utility is  
27 receiving that much less.

28 BY MR. PARKER:

1           Q    So if I understand you correctly,  
2   the short answer is "yes"?

3           A    Yes.

4           Q    Okay, sir.  Thank you.

5                    Again a question to either one of  
6   you on the panel who is better able to answer  
7   this.  For a typical Power Purchase  
8   Agreement -- and I understand we're talking  
9   general here.  Every Power Purchase Agreement  
10  is different.  What is the typical price that  
11  the customer would pay per kilowatt-hour for  
12  the energy?

13           A    That is really something I cannot  
14  answer both because of what you suggested,  
15  there is no such thing as typical.  It's  
16  changing constantly depending on the upstream  
17  financing available to the third-party  
18  owner/provider and other, you know, cost of  
19  equipment, everything.  Things are constantly  
20  changing.

21                   So for that reason, I can't answer  
22  your question and also because I don't know.  
23  I don't track our members' contracts or the  
24  prices they charge customers.  It's not  
25  CALSSA's place to do so.                                 ]

26           Q    Okay.  Would you say that 15 cents  
27  per kilowatt-hour would be a reasonable  
28  number?

1           A    I don't know.

2           Q    Okay.

3           A    I really don't know.

4           Q    Okay. That's fair, sir. Would you  
5 agree that the amount of customer bill  
6 savings should be a consideration when the  
7 Commission evaluates low-income solar  
8 programs?

9           A    It sounds like you're asking about  
10 low-income solar programs generally speaking.

11          Q    Yes, sir. You're correct.

12          A    The Commission should ensure that  
13 they are beneficial to low-income consumers.

14          Q    So -- but customer bill savings  
15 should be a consideration when they look at  
16 low-income solar programs?

17          A    Total customer savings. So when  
18 you say "bill savings," you know, if they pay  
19 one bill to the utility and one bill to the  
20 solar provider, those would both be included.  
21 But I think the nature of your question is  
22 should customer overall savings from program  
23 participation be considered, and the answer  
24 is certainly yes.

25          Q    Okay. I think we're on the same  
26 wavelength. Just to make sure, so we're  
27 talking total savings?

28          A    Total energy costs savings on their

1 energy costs to the customers, yes.

2 MR. PARKER: Okay, sir. I just wanted  
3 to make sure that I understood what you were  
4 saying. All right then.

5 I think this will be my last line of  
6 questioning. Your Honor, I will ask, do you  
7 want to take a break now, or do you want me  
8 to push this? This is going to be about  
9 another 15, potentially 25 minutes depending  
10 on responses.

11 ALJ HYMES: Then let's go ahead and  
12 take a break.

13 We'll be off the record.

14 (Off the record.)

15 ALJ HYMES: We'll be back on the  
16 record.

17 Mr. Parker, please proceed.

18 BY MR. PARKER:

19 Q Thank you, your Honor. Excuse me,  
20 your Honor. Just to make sure we're all on  
21 the same document, please refer to Exhibit  
22 CSA-02 CALSSA rebuttal testimony, and turn to  
23 page 39 of that document. Once you get  
24 there, please let me know.

25 WITNESS HEAVNER: I'm there.

26 Q All right, sir. Thank you. I  
27 wanted to ask a few clarifying questions  
28 about figure 8 in this document. Is the gray

1 line in figure 8 the single avoided cost of  
2 solar photovoltaic PV from the 2021 avoided  
3 cost calculator?

4 A I'm sorry. I have the non-color  
5 printout. Give me just a moment.

6 Q Okay.

7 A Okay. I'm there. Please ask your  
8 question again.

9 Q Yes, sir. There is what appears to  
10 be a gray line at the bottom of that figure.  
11 Is that gray line the single-year avoided  
12 costs of solar PV from the 2021 avoided cost  
13 calculator?

14 A Yes, it is using a -- yes, it is.  
15 Yes.

16 Q Okay, sir. And is the yellow line  
17 the 25-year levelized avoided cost from the  
18 2021 avoided cost calculator?

19 A Yes, it is.

20 Q And the green line, it is CALSSA's  
21 proposed glidepath of stepdown of its export  
22 compensation rates under the successive  
23 tariff; is that correct?

24 A That's correct.

25 Q Looking at your glidepath on this  
26 figure 8, it appears that the entire  
27 glidepath was constructed so that at the end  
28 of the glidepath, which is supposedly as soon

1 as 2030, the export compensation rates would  
2 be far higher than the single-year avoided  
3 costs of PV that the Commission adopted in  
4 the 2021 avoided cost calculator, which is  
5 the gray line; is that correct?

6 A No. The CALSSA proposal was built  
7 around the 25-year levelized value of the  
8 2020 avoided cost calculator.

9 Q The 2020, you said?

10 A That is correct.

11 Q So is it correct that CALSSA did  
12 not adjust the percentage stepdown of export  
13 compensation in your glidepath for the three  
14 IOUs for aligning with the result of the  
15 Commission-adopted 2021 avoided cost  
16 calculator?

17 A That is correct. We did not adjust  
18 our proposal in rebuttal despite the  
19 finalization of the 2021 avoided cost  
20 calculator that happened between the timing  
21 of direct testimony and rebuttal testimony.  
22 We recognize that the 2021 ACC results are  
23 something that the Commission is going to  
24 consider in evaluating proposals among many  
25 other things to consider. We decided to  
26 maintain our proposal because it's what we  
27 believe the market can tolerate. So to  
28 balance the different objectives, you have

1 the different results. And so we maintain  
2 the proposal while recognizing that the 2021  
3 calculator is going to be taken into  
4 consideration, which is why we came up with  
5 the alternative glidepath that we presented  
6 in rebuttal, which in some ways is a  
7 modification of our proposal that is not  
8 reflected in this table. We maintain the  
9 proposal as the proposal, but we offer the  
10 alternative glidepath as sort of a  
11 compromise.

12 MR. PARKER: Your Honor, I would move  
13 to strike everything after the -- after he  
14 answered the question with regard to whether  
15 or not these results align with the  
16 Commission-adopted 2021 avoided cost  
17 calculator because that was the question  
18 asked: Did they align with the 2021 avoided  
19 cost calculator. And he admitted that -- you  
20 know, he gave an answer and then gave a  
21 longwinded discussion that had nothing to do  
22 with the question I asked.

23 MR. LINDL: Your Honor, may I respond?

24 ALJ HYMES: Yes.

25 MR. LINDL: He was explaining the  
26 answer to the question. There was nothing  
27 that was outside of the bounds of that  
28 question.

1 ALJ HYMES: I agree. Overruled.

2 BY MR. PARKER:

3 Q If you would turn to page 38 of the  
4 rebuttal and look at table 4.

5 A Getting there.

6 Q Is it correct that the far right  
7 column -- excuse me. Is it correct that the  
8 far right column represents the average  
9 compensation for solar PV exports under  
10 CALSSA's proposed glidepath in each year from  
11 2022 to 2030?

12 A That is the number -- those are the  
13 numbers under the glidepath from our core  
14 proposal, which are different than the  
15 alternative glidepath that we present here.

16 Q And it looks like in 2030  
17 compensation for exports under CALSSA's  
18 proposal would be 15.62 cents per  
19 kilowatt-hour, correct?

20 A Yes.

21 Q And the average avoided cost of  
22 solar PV from the 2021 avoided cost  
23 calculator during 2030 is 3.177 cents per  
24 kilowatt-hour, correct?

25 A According to the single-year value  
26 in the 2021 ACC; that is correct.

27 Q So average compensation of solar PV  
28 exports in 2030 in this table 4 is 4.9 times



1 the avoided cost of PV in 2030, correct?

2 A According to current projections of  
3 what the avoided costs will be in 2030. If  
4 those projections change, then obviously it  
5 would be different.

6 Q And just to confirm, CALSSA did not  
7 adjust its export compensation values in  
8 table 4 to align with the results of  
9 Commission-adopted 2021 avoided cost  
10 calculator, correct?

11 A Correct. As an alternative, we  
12 have --

13 Q I didn't ask you about an  
14 alternative, sir. I asked you about whether  
15 or not you aligned the results with the 2021  
16 avoided cost calculator?

17 A In rebuttal testimony, we did make  
18 adjustments. We did not make an adjustment  
19 in table 8.

20 Q And I asked about table 4. All  
21 right.

22 A Table 4.

23 Q All right. Could you pull up  
24 Exhibit PAO-11, and turn to page 41.

25 A I'm there.

26 Q All right. Let me join you here.  
27 My computer is slow right now. And just to  
28 make sure we're on the same sheet of music,

1 you're on the page where it's a PDF document,  
2 at the bottom it's marked 41, which would be  
3 page 3 of the PDF document?

4 A Yeah. There's a table 3 at the top  
5 of the page?

6 Q Yes, sir. That's the one in the  
7 upper right-hand corner?

8 A Yes.

9 Q Okay. If you look at the bottom of  
10 the left-hand column, there's a sentence that  
11 starts "previously." Do you see it?

12 A Yes.

13 Q Could you read that paragraph out  
14 loud?

15 A "Previously the consumer behavior  
16 literature had suggested that residential  
17 customers primarily use a simple payback time  
18 to evaluate a new technology." And then it  
19 gives a reference.

20 Q Okay. The next sentence starts  
21 with "however." Would you read that as well.

22 A "However, with the strong growth of  
23 third-party-owned systems, we expected that  
24 leasing customers are frequently being  
25 pitched PV systems based on the monthly bill  
26 savings rather than a payback time."

27 Q And the sentence following that --  
28 the next two sentences.

1           A     "Surprisingly customers who bought  
2     PV systems are also increasingly using  
3     monthly bill savings."

4           Q     And then the next and last sentence  
5     after that.

6           A     "Use of the MBS metric," monthly  
7     bill savings, that is, "is consistent with  
8     the importance respondents place on reducing  
9     their current and future bills."

10          Q     So if I understand correctly, the  
11     study that you use here to support your claim  
12     that payback periods should be no longer than  
13     seven years, it actually says that  
14     increasingly customers are evaluating  
15     adoption of PV based on monthly bill savings  
16     rather than the payback period. Is that what  
17     this states?

18          A     Well, the two go hand-in-hand.

19          Q     But my question is is that what  
20     this states?

21          A     The meaning of this paragraph is  
22     that customers respond to certain messages,  
23     but the economics behind those messages are  
24     directionally equivalent. So what creates a  
25     longer payback creates a shorter monthly bill  
26     savings. And this paragraph is commenting on  
27     how to communicate that to customers.

28          Q     But, again, my question to you is

1 does the text that you read state that  
2 customers are, in fact, evaluating adoption  
3 of photovoltaic sales based on monthly bill  
4 savings? It either says it or it doesn't.

5 A I think the question has to be what  
6 is the meaning of this paragraph, and I  
7 believe I just explained that.

8 Q All right. All right. Go -- if  
9 you would please, go to the top of the  
10 left-hand column on page 42. And the  
11 paragraph -- please orient yourself to the  
12 paragraph that starts below figure 3. If  
13 would please -- the sentence -- I'd like you  
14 to read the first two sentences of this  
15 paragraph. The first sentence starts,  
16 "differences in." Would you read those  
17 aloud, please.

18 A "Difference in responses for the  
19 monthly bill savings metric are opposite  
20 those of payback time with non-adopters  
21 indicating they would be satisfied with lower  
22 savings when using the MBS metric. For  
23 example, only 24.7 percent of adopters  
24 indicate they would consider adopting the  
25 savings of \$50 per month, whereas 71.9  
26 percent of non-adopters indicate  
27 that would -- indicate that would at the same  
28 level of returns."

1           Q    Thank you.  And just to clarify, I  
2   think you said it earlier, but I want to make  
3   sure we are on the same sheet of music again.  
4   The acronym MBS refers to when solar  
5   developers provide prospective customers with  
6   a monthly bill savings metric rather than a  
7   payback period metric, correct?

8           A    I have to say that typically solar  
9   providers provide all of these metrics to  
10  customers.

11          Q    But that's one of the metrics that  
12  you provide?

13          A    I just am saying -- excuse me?

14          Q    Is that one of the metrics they  
15  provide, though, the MBS metric?

16          A    Monthly bill savings, yes.

17          Q    Okay.  So let's port this out.  Do  
18  you agree that this text says that  
19  non-adopters, that is, those customers who  
20  have not yet adopted solar but who may do so  
21  in the future indicated that they would be  
22  willing to tolerate lower bill savings than  
23  customers who have already adopted solar in  
24  order to make the decision to adopt solar --  
25  solar energy?

26          A    You can see from figure 3 right  
27  above this paragraph that the values are very  
28  similar, but that is the distinction that is

1 being made.

2 Q All right then. Now, based on the  
3 second sentence that you just read a few  
4 minutes ago, roughly 70 percent -- 72 percent  
5 of those who have not yet adopted solar would  
6 adopt solar if their bill savings were \$50 a  
7 month; is that correct?

8 A What it says.

9 Q All right. Now, going to figure 4  
10 on the same page, do you see that the X axis  
11 says "monthly bill savings percentage of  
12 summer bill"?

13 A Yes.

14 Q Does the green line represent  
15 people who have already adopted solar while  
16 the red line represents ratepayers who have  
17 not yet adopted solar?

18 A Again, I'm going to need a moment  
19 to get to the color version. I'll get it in  
20 just a moment.

21 Q Ah. Okay. Yes, sir.

22 A All right. Okay. The green line  
23 represents those that have already adopted  
24 solar as of the time of this survey, and the  
25 red line represents those that had not yet  
26 adopted solar.

27 Q All right, sir. We're both -- we  
28 both have the same understanding of that

1 information. And do you see that at any  
2 point a monthly bill savings from about 10  
3 percent to 100 percent that the percentage of  
4 non-adopters who would adopt solar is  
5 significantly higher than a percentage of  
6 adopters?

7 A Yes. In the 20 to 60 percent  
8 range. My view of this is inexact. 25  
9 percent to 60.

10 Q Okay, sir. Yeah. I understand  
11 you're reading a graph and trying to  
12 visualize over to the numbers on the side  
13 there. So for instance, if a customer could  
14 earn bill savings equal to 30 percent of  
15 their monthly bills, based on what you see in  
16 this graph, what percentage of non-adopters  
17 would be incentivized to adopt solar?

18 A Sorry to do this midstream. But  
19 Mr. Plaisted has looked at this study and  
20 these figures more than I, and I should  
21 probably allow him to answer this.

22 Q Mr. Plaisted, do you have the  
23 document in front of you?

24 WITNESS PLAISTED: Yeah. Unmute  
25 myself. Yeah, the figure I'm most familiar  
26 with is in our direct testimony, figure 14.  
27 That is the one that is in the (inaudible)  
28 modeling that I have studied in detail.

1           Q    Okay. But my question, though, is  
2 on PAO Exhibit 11 and the figure 4. And  
3 that's my question to you. So if you would  
4 please pull it up and take a look at that.

5           A    I have it. Let me expand it here  
6 so I can see it. All right. And I have  
7 to -- I have not read this paper in  
8 completion, and I need to have the proper  
9 context. But I am just reading the figure  
10 and what the figure itself says and its  
11 citation.

12          Q    Okay, sir. And -- and that's --  
13 and that's all -- that's all we wanted you to  
14 do is be able to look at this figure.

15          A    Yeah.

16          Q    Now, when you look at this  
17 figure -- and this is what I asked of your  
18 colleague, Mr. Heavner --

19          A    Yes.

20          Q    -- looking at figure 4 -- and I  
21 know you're trying to visualize this with the  
22 lines -- if a customer could earn bill  
23 savings equal to 30 percent of their monthly  
24 summer bills, what percentage of non-adopters  
25 would be incentivized to adopt based on what  
26 you see in that graph?

27          A    Yeah. I think there may be a  
28 misinterpretation of what this chart is.



1 This is not net savings. This is not about  
2 customer (inaudible). This is how much  
3 (inaudible) they bill savings. They should  
4 probably say "bill reduction." So the way I  
5 read this, given the actual statement of bill  
6 savings, which is really bill reduction -- if  
7 I read that, it says, okay, a 40 percent bill  
8 reduction. (Inaudible.)

9 (Interruption by reporter.)

10 WITNESS PLAISTED: Yeah. Let me start  
11 over from the top. I'm just reading the  
12 title of the chart. It says, "percent  
13 willing to adopt if given economics were  
14 better." I do not know what the given  
15 economics are, but I'm assuming it means that  
16 you can meet or beat the utility bill by some  
17 economic ratio. I don't know what that is in  
18 the paper. But it is saying if I have a --  
19 if I read this right -- if I can do 40  
20 percent bill savings, how many customers are  
21 motivated to go solar? And it would say for  
22 people who have already adopted, that's  
23 approximately 38 percent. For people who  
24 have not adopted, that is around 55 percent.  
25 But it is not saying what the economics are.  
26 It's saying you come and say, "Hey, I can  
27 economically reduce your bill by 40 percent."  
28 In contrast, if it says, "Hey, I can reduce

1 your bill by 100 percent," of course, 85  
2 percent of participants are interested in  
3 solar given certain economic criteria.

4           So what's missing here is what is  
5 the economic criteria that is driving that?  
6 This is just saying how many people are  
7 interested to go solar given -- adopt if  
8 given economics were better. I do not know  
9 what the given economics are.

10           Q    Okay. So -- and I understand what  
11 you're trying to say there, but just based on  
12 what the study says here and the page you're  
13 looking at, do you agree that this study  
14 finds that a greater proportion of the  
15 general population could be enticed to adopt  
16 solar if the value proposition for solar was  
17 presented to them in terms of bill savings  
18 rather than the payback period?

19           A    No. I don't read it that way. I  
20 read it how much -- how deep into the home  
21 offset -- how much do the customers want  
22 their utility bill reduced to be interested  
23 in the purchase of solar at a given economic  
24 criteria.

25           Q    Okay.

26           A    The way I read this chart is saying  
27 early adopters want deeper savings. Because  
28 they are early adopters, they want to fully

1 offset their bills. While on -- not early  
2 adopters are more willing to address just the  
3 economic criteria. Upon reading the titles  
4 of the figure and the title above it, that  
5 is, I believe, what this figure is trying to  
6 say.

7 Q All right, sir. If you would look  
8 at the bottom of page 42 under the header  
9 Conclusion, that first paragraph.

10 A What document are we on now?

11 Q The same document you were just  
12 looking at, the one with the figure 4. This  
13 is -- okay? This is Exhibit PAO-11.

14 A Okay. I'm there, page 42.

15 Q Okay then. All right. So you're  
16 on page 42 at the bottom right-hand side. It  
17 says "Conclusion"?

18 A Yup.

19 Q Do you see that, sir? Would read  
20 the entire first paragraph there out loud for  
21 the record.

22 A Yes. I will. "The U.S.  
23 residential solar market is growing quickly.  
24 As it continues growing, it must expand into  
25 new populations. In the San Diego market,  
26 things are evolving with environmental  
27 concerns decreasing in priority replaced with  
28 greater interest in saving money and

1 particularly reducing exposure to higher  
2 future bills. Customers leasing their  
3 systems now constitute a majority of new  
4 installations in many national markets. And  
5 these customers are more representative of  
6 the general population than the  
7 early adopters -- than early adopters."

8 Q Thank you, sir. Last question for  
9 both you, Mr. Plaisted, and you, Mr. Heavner.  
10 Do either of you know if any solar developers  
11 are currently in the practice of making  
12 promises to customers that their NEM rates  
13 will not change for 20 years after adoption  
14 of solar? ]

15 WITNESS HEAVNER: Is that in relation  
16 to the paragraph that was just read?

17 Q Just as a general matter.

18 Do you have knowledge whether or  
19 not solar companies made such assertions or  
20 promises to their prospective customers?

21 A To my knowledge, every solar  
22 customer is making customers aware of the  
23 risks of tariff change. I certainly get a  
24 lot of questions from a lot of contractors  
25 saying, "What the devil is going on at the  
26 PUC?"

27 Q Okay. And I think you meant solar  
28 providers making comments to solar customers.

1 Because you said solar customers. And it --  
2 I'm -- solar customers don't make comments to  
3 solar customers. So if you would restate  
4 that to be a littler clearer for the record?

5 A Okay. So it sounds like I  
6 misspoke. And it's solar contractors making  
7 those statements to solar customers.

8 Does that work?

9 Q Yes, sir. That's what I thought  
10 you meant. But that is not what you said.  
11 Thank you, sir.

12 Your Honor, I have no further  
13 questions for these witnesses.

14 ALJ HYMES: Any redirect?

15 MR. LINDL: Your Honor, can I confer  
16 with my witnesses for just a moment, please?

17 ALJ HYMES: Yes, you may.

18 We'll be off the record.

19 (Off the record.)

20 ALJ HYMES: We'll be back on the  
21 record. I'm just waiting for everyone.

22 Mr. Lindl, do you have any redirect?

23 MR. LINDL: Yes, your Honor, just a few  
24 questions, please.

25 ALJ HYMES: Please proceed.

26 MR. LINDL: Thank you.

27 REDIRECT EXAMINATION

28 BY MR. LINDL:

1           Q    Mr. Heavner, Mr. Parker asked you  
2   about PAO-07, what has been premarked as  
3   PAO-07, and the table 20 that's include in  
4   that exhibit; correct?

5           A    Yes.

6           Q    In what context was the California  
7   Energy Commission considering Exhibit PAO-07  
8   and Table 20 therein?

9           A    Well, it's clearly as a last -- a  
10   worst-case-scenario type of analysis, as I  
11   think Mr. Parker suggested, if I remember  
12   correctly. So it greatly contrasts with the  
13   2-to-1 cost benefit ratio of the actual  
14   policy that they were considering. And it  
15   was in the -- the actual decision they made  
16   was to approve a mandate on all Californians  
17   with a 2-to-1 cost benefit ratio.

18          Q    Okay. Thank you.

19                Mr. Parker also asked you about  
20   whether there are difference in customer  
21   benefits between PV system ownership models.

22                Is the existence or absence of an  
23   up-front cost part of that difference?

24          A    Well, yes. It's quite obvious that  
25   a no-money down option is a great benefit for  
26   low-income customers to be able to install  
27   solar energy systems.

28          Q    All right.

1           And then, lastly, going through the  
2 exhibit we were just looking at, what's been  
3 premarked as Exhibit PAO-11, Mr. Parker asked  
4 you about monthly bill savings metrics and a  
5 payback calculation metric; correct?

6           A     Yes.

7           Q     Are those two concepts two sides of  
8 the same coin?

9           A     They are. One influences one --  
10 one influences the other and the related  
11 direction.

12          Q     So does PAO-11 discuss how to  
13 convey the same idea, just in two different  
14 ways?

15          A     Yes. That is accurate.

16          Q     All right. No further questions,  
17 your Honor?

18          ALJ HYMES: Okay. Thank you.

19                 Let's be off the record.

20                 (Off the record.)

21          ALJ HYMES: We'll be back on the  
22 record.

23                 Mr. Freedman.

24          MR. FREEDMAN: Thank you, your Honor.

25                         CROSS-EXAMINATION

26          BY MR. FREEDMAN:

27                 Q     Good morning -- good afternoon, Mr.  
28 Heavner, Mr. Plaisted?

1 WITNESS HEAVNER: Hello.

2 Q So, Mr. Heavner, I think most of my  
3 questions go to you, but you can let me know  
4 if Mr. Plaisted is the appropriate witness to  
5 respond.

6 And let me just start out by  
7 asking, the testimony that you've sponsored  
8 here, was this written entirely by the two of  
9 you?

10 Or did you receive support and  
11 assistance from other CALSSA staff or member  
12 companies?

13 A We certainly had input from CALSSA  
14 staff and -- not language input, but content  
15 input from members.

16 Q Okay. Thank you.

17 Let's start with your direct  
18 testimony, exhibit CSA-01, on page 3.

19 A Okay. I'm there.

20 Q Starting on line 9, you state that  
21 the CALSSA proposal in this case is aimed at  
22 maintaining the average pace from recent  
23 years of installing approximately 1200  
24 megawatts of consumer solar each year, with  
25 an increasing percentage of systems  
26 containing battery energy storage.

27 Do you see that?

28 A Yes.



1           Q   And is it your testimony that the  
2 CALSSA tariff proposal would provide  
3 sufficient incentives to customers to ensure  
4 that this pace of adoption continues?

5           A   Did you say the CALSSA CARE  
6 proposal?

7           Q   No. The CALSSA tariff proposal.

8           A   Tariff proposal. Sorry.

9                   It is very difficult to judge that.  
10 We have proposed changes in -- we proposed to  
11 cut the value of NEM export credits in half  
12 for two of the three utilities.

13                   Will we be able to maintain this  
14 level of market with that level of change?  
15 It's very difficult to predict. It would  
16 depend on reductions until costs that are  
17 mostly going to come from soft costs.

18                   Can we reduce soft costs in the  
19 coming years? Certainly there's broad hope  
20 for that.

21           Q   But is it the intention of your  
22 proposal to sustain that rate of customer  
23 adoption?

24           A   Yes, it is.

25           Q   Let's move to page 7 of your direct  
26 testimony where in Table 2, you provide the  
27 capacity thresholds for step transition under  
28 the five steps of the proposal.

1 Do you see that?

2 A I do.

3 Q Now, as a starting point, when you  
4 talked about in the last response cutting  
5 export compensation in half, that refers to  
6 customers that sign up under Step 5 of the  
7 proposal; is that right?

8 A That is correct.

9 Q And the cutting-in-half  
10 characterization would not apply to  
11 customers, for example, that signed up in  
12 Step 1 or 2, would it?

13 A That is correct.

14 Q And once a customer is taking  
15 service in any of the individual steps, they  
16 would retain that export value for how many  
17 years?

18 A 20 years.

19 Q 20 years. Okay.

20 And when are you assuming that Step  
21 1 would begin?

22 A Our proposal has an August 2022  
23 recommended implementation date. So it would  
24 be as soon as the NEM3 tariff becomes  
25 available.

26 Q And when are you assuming that Step  
27 5 would begin?

28 A In 2030.

1           Q    And the Table 2 numbers that you  
2   provided here, does that show that -- and,  
3   subject to check, unless you want to do the  
4   math here -- that 6360 megawatts of  
5   cumulative solar and 3180 megawatts of  
6   storage would be deployed prior to achieving  
7   Step 5?

8           A    You're adding all of the solar  
9   columns and all of the storage columns that  
10   are listed here?

11          Q    Yes.

12          A    The steps -- yeah. Then -- yes.  
13   The Steps 1 through 4 would not be Step 5.

14          Q    And does this result in  
15   approximately 1200 megawatts of installations  
16   per year under the glidepath that you've  
17   identified?

18          A    What -- this is put in residential.  
19   And the 1200 megawatts is residential,  
20   commercial, and agriculture. We would not  
21   object to having thresholds based on the  
22   market as a whole, without considering  
23   different customer classes. Residential is,  
24   you know, the larger volume. So that's  
25   what's put here.

26                But if the Commission decides to  
27   base its thresholds on the entire market,  
28   that would be perfectly acceptable, in our

1 view.

2 Q But the proposal you've made here  
3 assumes 1200 megawatts per a year of  
4 deployments by residential customers; is that  
5 right?

6 A No. 1200 megawatts for the market  
7 as a whole. Sorry if that was not clear.

8 Q Well, when you say, in Table 2  
9 cumulative residential megawatts on NEM3, is  
10 that a misprint?

11 A No, this is residential. Those are  
12 two-year -- each of those numbers is two  
13 years' worth.

14 Q And if I add up all of those  
15 numbers and divide by the number of years  
16 that you've identified as the transition  
17 path, does it not amount to approximately  
18 1200 megawatts of capacity per year?

19 A Wait. Wait. It's not correct to  
20 add them up. These are cumulative. So I  
21 must've answered incorrectly to your previous  
22 question.

23 Q Well -- so you're assuming -- tell  
24 me what you're assuming in terms of the  
25 residential share of the total, for purpose  
26 of step-down?

27 A For these figures, I looked at the  
28 past five years, I believe -- it might have

1    been six, but I think it was five years -- in  
2    which the solar adoption was very consistent,  
3    in total market and even within segments.  
4    Ask so it's based on an average of those. So  
5    the average residential versus commercial  
6    over that 5- or 6-year period would be the  
7    same as what this is based on a going-forward  
8    basis.

9           Q    Well, with that in mind, let me ask  
10   you to take a look at what has been marked as  
11   Exhibit TURN-06, which is a cross-examination  
12   exhibit. It contains CALSSA responses to  
13   TURN Data Request Number 3.

14                Let me know when you have that.  
15   And when you do, please take a look at your  
16   question -- your response to Question 1?

17           A    Okay. I have it.

18           Q    In this question, you were asked  
19   about this 1200 megawatt annual pace and the  
20   source of the data that you used in your  
21   testimony. And are these the -- in response  
22   to question 1B, you provide values starting  
23   in 2013.

24                Is this the data you relied on in  
25   making your recommendation?

26           A    No. You asked -- we used the past  
27   five years, it says, in the answer; yes. So  
28   I started -- the table shows started in 2013,

1 and it states that we used the past five  
2 years.

3 Q And in response Question 1D, and  
4 you have to turn to the next page to get the  
5 answer there, you were asked about whether  
6 the pace of future deployments should be  
7 maintained for each customer class. And your  
8 response was that CALSSA does not have a  
9 rigid target for the mix between residential  
10 and commercial solar.

11 Do you see that?

12 A Yes.

13 Q So how did you come up with your  
14 adoption targets for the different steps for  
15 the residential class?

16 A Well, our proposal is presented as  
17 what is effectively a target for the mix.  
18 Because it's based only on residential. In  
19 response to your data request, we are  
20 suggesting that we are perfectly supportive  
21 of a different version of that proposal that  
22 would be based on entire market.

23 Q So am I to understand that CALSSA  
24 is not locked in on the amount of megawatts  
25 that would be assigned to each step for the  
26 residential class under its proposal?

27 A Our proposal, fundamentally, is two  
28 years of anticipated adoption at a steady

1 market rate per step. And we're open to  
2 other ways to calculate that.

3 Q And when you say two years, so you  
4 mean looking at the historic adoption rates  
5 by the residential class on an annual basis  
6 and using that as the metric for determining  
7 the amount of capacity in each future step?

8 A With the goal being that the coming  
9 years would have the same adoption rate as  
10 the resident years, yes.

11 Q Okay. Thank you.

12 Let's turn to your rebuttal  
13 testimony. Go to line -- page 3.

14 A Okay. I'm there.

15 Q Starting on line 15, you state  
16 that:

17 Avoided spending on transmission  
18 and distribution infrastructure  
19 should be a primary consideration  
20 of the Commission in developing  
21 net metering policy.

22 And then on line 19, you state  
23 that:

24 The Joint IOU testimony is  
25 surprisingly dismissive of the  
26 ability of DERs to reduce the need  
27 for transmission and distribution  
28 system expansion.

1 Do you see that?

2 A I do.

3 Q Okay.

4 With that statement in mind, I  
5 would like you turn to what's been marked as  
6 exhibit TRN-07, a cross-examination exhibit  
7 that contains a press release from PG&E, and  
8 a New York Times article dated July 21st,  
9 2021.

10 Let me know when you have that.

11 A I have it.

12 Q Okay. Have you had a chance to  
13 review this material?

14 A I have. I didn't read every word,  
15 but I understand what they are presenting.

16 Q Okay. And is it your understanding  
17 from the news release that is contained in  
18 the front of this exhibit that PG&E has  
19 announced an intention to engage in a  
20 multi-year effort to underground  
21 approximately 10,000 miles of power lines?

22 A An intention to propose such work,  
23 yes.

24 Q Yes.

25 And the Commission hasn't approved  
26 that of course; right?

27 A Of course.

28 Q Okay. And I would like you to turn



1 to the New York Times article, second page.  
2 If you move to the third full paragraph, the  
3 very last sentence there, there's a -- it  
4 start with the words, "Based on underground  
5 power line proposals."

6 It says that:

7 PG&E has previously submitted to  
8 state regulators the project could  
9 cost about 4 million per mile or  
10 \$40 billion overall, Mr. Toney  
11 said.

12 Do you see that?

13 A Yes.

14 Q And that's a statement from TURN's  
15 Executive Director about the possible cost of  
16 such a proposal.

17 Is that how you would understand  
18 that?

19 A Yes. As I understand it, PG&E's  
20 proposal itself may not have had a price tag.  
21 And this New Work Times reporter asked TURN  
22 for their opinion on the cost of the  
23 proposal.

24 Q Would you agree that an effort to  
25 underground 10,000 miles of distribution  
26 lines would likely require investments that  
27 are in the range of tens of billions of  
28 dollars?

1           A     It would require a major  
2 investment, there's no question.

3           Q     Okay. Is it reasonable to assume  
4 that an individual customer who installs  
5 rooftop solar within one of these  
6 high-fire-threat districts, that they would  
7 reduce the amount of undergrounding that  
8 might occur in their area?

9           A     You're asking if an individual  
10 customer adoption of solar would reduce  
11 undergrounding near them?

12          Q     Yes.

13          A     There's -- the -- they both need to  
14 -- those questions both need to be looked at  
15 more broadly in terms of the total adoption  
16 of solar and the total amount of reliance on  
17 transmission distribution infrastructure.

18          Q     Well, if there was a significant  
19 effort to underground lines  
20 in high-fire-threat districts, how would the  
21 decision of an individual customer to install  
22 solar affect the amount of undergrounding  
23 that might occur?

24          A     The collective adoption of solar by  
25 all customers will relieve reliance on  
26 transmission and distribution infrastructure  
27 throughout the state. I can't draw a direct  
28 parallel to any one location based on one

1 customer adoption.

2 Q So are you suggesting that if a  
3 large number of customers adopted solar in a  
4 high-fire-threat district, that a proposal to  
5 underground such lines, distribution lines,  
6 might not apply to that area?

7 A Distribution lines.

8 Q Yeah.

9 A The -- presumably they all -- if  
10 they are net metered customers that maintain  
11 electricity service with the utility, then  
12 the distribution lines would still exist.

13 Q And would that suggest that if  
14 other distribution lines were being  
15 undergrounded, that the distribution lines  
16 serving these net meter customers would also  
17 be undergrounded as well?

18 A The individual local adoption of  
19 net metered solar would still require the  
20 undergrounding -- it would not alter the  
21 utility's plan for undergrounding.

22 Q So if PG&E's proposal or some  
23 version of that is approved and there are  
24 substantial undergrounding costs and those  
25 costs are recovered in distribution rates  
26 charged to all customers, would you agree  
27 that a customer putting solar on their roof  
28 under the current net metering tariff would

1   reduce their contributions toward these  
2   undergrounding expenditures, because they  
3   would only be charged based on imported  
4   electricity?

5           A    If those undergrounding activities  
6   were paid for entirely by the rate base,  
7   which I don't think is at all a given, then  
8   they would -- it -- and if they are entirely  
9   collected by distribution rates and not  
10   non-bypassable charges and people pay lower  
11   bills, they would pay lower distribution  
12   amounts.

13          Q    Okay.  How does CALSSA's tariff  
14   proposal address the cost responsibility for  
15   these types of large, new distribution  
16   expenditures that are not avoided or reduced  
17   as a result of customer solar adoption?

18          A    If we continue to look short term,  
19   one by one, short-term causation, short-term  
20   economics, we're going to miss opportunities  
21   to build the electric system of the future.  
22   And it's important that the state have  
23   policies, especially as it goes on parallel  
24   drives for greenhouse gas reduction and the  
25   subset of electrification, to ensure that  
26   it's creating a sensible system years from  
27   now on the whole.  So it is in that context  
28   that I think the Commission should focus

1 their decision.

2 Q So does CALSSA's tariff proposal  
3 have any particular mechanism for collecting  
4 these types of costs from customers that  
5 would participate in the successor tariff  
6 program?

7 A In the immediate short term, there  
8 is no extra fee that would be assessed to  
9 solar adopters.

10 Q Okay. You mentioned non-bypassable  
11 charges in your response to my previous  
12 questions. You said, "If the costs were  
13 recovering in distribution versus  
14 non-bypassable charges."

15 How is CALSSA proposing to treat  
16 non-bypassable charges as part of its tariff  
17 concept?

18 A Non-bypassable charges would be  
19 treated in the same way that they are in the  
20 current tariff, if I'm not mistaken.

21 Q So when you propose that  
22 compensation for exports be set at a  
23 percentage of the retail rate, are you  
24 proposing that the retail rate be adjusted to  
25 reduce the amount, but adjusted downward by  
26 the amount of non-bypassable charges in the  
27 retail rate, or are you not proposing to  
28 adjust the export rate to account for

1 non-bypassable charges?

2 A Our proposal, I believe, is quite  
3 clear and was misunderstood in TURN's  
4 rebuttal. It is to make the reduction in  
5 rates for the export value and then add the  
6 non-bypassables on top of it.

7 So, currently, under NEM2, you have  
8 an export rate at a hundred percent of  
9 retail, minus non-bypassable charges. Under  
10 our proposal, it would be some other  
11 percentage of retail rates but then adding --  
12 continuing to add the non-bypassable charges  
13 on top of that.

14 Q When you say add the non-bypassable  
15 charges --

16 A Subtract as a credit. Right.

17 Q So just to provide a simple  
18 example, if the export -- if the undiscounted  
19 export rate was 10 cents, which we know is a  
20 fantasy in California, and there were 2 cents  
21 of non-bypassable charges, you would start  
22 with an 8-cent rate before applying the  
23 percentage discount?

24 A That's -- well, that's NEM2;  
25 correct?

26 Q I'm just wondering if that's your  
27 proposal?

28 A No --

1 (Unreportable crosstalk.)

2 A No. That's incorrect. As a  
3 percentage discount, you would -- if- if you  
4 were in a step that has 80 percent of retail  
5 and the rate were 10 cents, you would take  
6 80 percent of 10 cents and then subtract  
7 non-bypassables beyond that to arrive at your  
8 export rate.

9 Q And the non-bypassables that you're  
10 referencing, are those limited to the same  
11 non-bypassable charges that were included in  
12 NEM2 tariff? Or might it include a larger  
13 universe of non-bypassable charges?

14 A The proposal is that they be the  
15 same, recognizing that the DWR bond charge  
16 has evolved since the NEM2 decision and is  
17 now the wildfire mitigation charge. So that  
18 would be included.

19 Q And if there were additional  
20 charges that were placed as non-bypassable on  
21 customer bills, for example securitization  
22 charges that utilities have approved by the  
23 Commission for undercollections or wildfire  
24 liability, would you propose to treat those  
25 in the same manner as the NEM2 non-bypassable  
26 charges?

27 A It is not our proposal to add any  
28 non-bypassable charges to the group of

1 non-bypassable charges that is used to  
2 calculate the NEM export rate. But the  
3 Commission would have the ability to decide  
4 at any point whether to include a new  
5 non-bypassable charge as part of this or not.

6 Q And under -- and so you're  
7 suggesting that at some upon in the future,  
8 the Commission could decide to add additional  
9 non-bypassable charges that would net out of  
10 the export compensation rate?

11 A They certainly could.

12 Q And customers that would sign up  
13 under each of the steps of your proposal,  
14 they wouldn't have much visibility into that  
15 possibility at the time they sing up, would  
16 they? ]

17 A Communicating the risk of change to  
18 customers is something that we always do, and  
19 we do it to the best of our ability.

20 MR. FREEDMAN: Your Honor, this would  
21 be an okay time for me to stop. I can also  
22 keep going, depending on your preference.

23 ALJ HYMES: No. Let's go ahead and  
24 break for lunch. Everyone, come back at  
25 1:30, and we'll continue with this line of  
26 questioning.

27 Before we go, are there any  
28 questions or concerns for the afternoon?



1 Please raise your hand.

2 (No response.)

3 ALJ HYMES: Okay. I'm not seeing any.

4 So, everyone, come back at 1:30, and with

5 that we'll be off the record. Thank you. ]

6 (Whereupon, at the hour of 12:30  
7 p.m., a recess was taken until 1:30  
8 p.m.)

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AFTERNOON SESSION - 1:35 P.M.

\* \* \* \* \*

ALJ HYMES: Let's go on the record. So before we continue with the cross-examination of our panel, I want to first address the motion of Protect Our Communities Foundation to enter into the record Exhibits PCF-03 through and including PCF-23. This motion was objected to by the Joint Utilities on the grounds the information contained in the exhibit was a, quote, data dump, unquote.

(Unmuted line.)

ALJ HYMES: Let's go off the record.

(Off the record.)

ALJ HYMES: We'll be back on the record. The motion was objected to by the Joint Utilities on the grounds the information contained in the exhibit was a, quote, "data dump," unquote.

I'm going to allow the exhibits to be brought into the record; however, only as they relate to cross-examination and within the transcripts.

I agree with Mr. Barnes that not every word of the exhibits can be taken for the truth of the matter. We did not discuss much of what was contained within those exhibits, in some examples only a sentence or

1 a number. So I'm only allowing them in as  
2 they relate to the cross-examination and to  
3 the transcript.

4 Further, I'm instructing attorneys  
5 for Protect Our Communities Foundation to  
6 work with my proceeding analyst to correct  
7 the information contained on the exhibit  
8 list. Many of these exhibits, if not all of  
9 them, are mislabeled. They are labeled as  
10 cross-exhibits for Witness Siegele, and  
11 that's not correct. So I'm instructing them  
12 to work with the proceeding analyst, and  
13 you'll be receiving -- everyone will be  
14 receiving my usual list of the exhibits that  
15 I send out every night. Instead of receiving  
16 them from me tonight, you'll receive them  
17 from one or both of my proceeding analysts.

18 So attorneys for Protect Our  
19 Communities Foundation should work with those  
20 proceeding analysts to make the correction on  
21 the exhibit list.

22 MS. FOLK: May I just clarify that,  
23 your Honor?

24 ALJ HYMES: Yes, and please state your  
25 name.

26 MS. FOLK: Sure. It's Ellison Folk  
27 from Protect Our Communities. So I'm looking  
28 at the exhibit list, and we did not designate

1 any of these as cross-exhibits. There are  
2 cross-exhibits that we have admitted for  
3 other purposes. So these are all submitted  
4 with the opening testimony whenever the  
5 deadline was. I can't remember what the  
6 deadline was for submitting exhibits  
7 initially prior to the hearing. So, I guess,  
8 I'm just trying to get some clarification  
9 there.

10 And I just want to also point out on  
11 the exhibit list, you know, some of these  
12 documents are, like, the Lookback Study or a  
13 type of, you know, transportation planning  
14 plan. So I don't -- I mean, I feel like -- I  
15 agree. We probably did not need to attach  
16 all these documents with our opening  
17 testimony, but I do believe some of them are  
18 certainly relevant to the proceeding and  
19 would not want this ruling to imply somehow  
20 that they were not.

21 ALJ HYMES: And that will be taken into  
22 consideration.

23 MS. FOLK: Okay. Thank you.

24 ALJ HYMES: I just caution -- not  
25 "caution." I encourage parties to look at  
26 what they're putting in, asking to have  
27 placed into the record and think clearly  
28 about that.

1                   Okay. Let's move on. Let's off the  
2 record.

3                   (Off the record.)

4                   ALJ HYMES: Let's go back on the  
5 record.

6                   Mr. Freedman, you may continue.

7                   MR. FREEDMAN: Thank you, your Honor.

8                   Q Before the break, I was asking  
9 about the rebuttal testimony on page 3, lines  
10 15 through 16, where you state:

11                   Avoided spending on transmission  
12 and distribution infrastructure  
13 should be a primary consideration  
14 of the Commission in developing  
15 that metering policy.

16                   Do you see that?

17                   WITNESS HEAVNER: Yes, I do.

18                   Q Is CALSSA's position that the  
19 Avoided Cost Calculator does not adequately  
20 incorporate the value of avoided spending on  
21 transmission and distribution?

22                   A The amount of avoided transmission  
23 and distribution that is incorporated in the  
24 current Avoided Cost Calculator is one view  
25 of long-term avoided transmission value, but  
26 it is not adequately considering the true  
27 reliability needs from a  
28 transmission-planning type of perspective for

1 the long term.

2 Q And is CALSSA asking the Commission  
3 to adopt a specific set of transmission and  
4 distribution deferral values associated with  
5 net-metered resources in this proceeding?

6 A No. The 2021 Avoided Cost  
7 Calculator has been adopted and is one thing  
8 that the Commission needs to consider among  
9 many things.

10 Q So in what proceeding should the  
11 Commission adopt these additional values that  
12 you've raised in your testimony?

13 A In future updates to the Avoided  
14 Cost Calculator for one. Probably the  
15 Integrated Resource Portfolio proceeding as  
16 well.

17 Q Thank you.

18 I would like you to turn to what's  
19 been marked as Exhibit TRN-06, which is the  
20 set of data responses that were provided, and  
21 specifically I'd like you to turn to Question  
22 and Answer 3 to this data request set.

23 A I have it.

24 Q And in this question, you're asked  
25 to provide any data and analysis quantifying  
26 the number of high-voltage transmission lines  
27 that are expected to be avoided under future  
28 successor tariff penetration.

1           And in response to Question 3C, you  
2     indicate that CALSSA does not believe this  
3     question has been adequately studied by any  
4     party. You have requested that CAISO do a  
5     counter-factual analysis to determine how  
6     much more capacity would be needed without  
7     existing and future customer generation and  
8     they have declined.

9           Do you see that?

10          A     I do.

11          Q     Do you believe that the California  
12     ISO is best suited to perform an analysis of  
13     transmission capacity that could be avoided  
14     through the adoption -- through additional  
15     deployment of distributed resources?

16          A     I believe that the CAISO  
17     transmission-planning process is the most  
18     rigorous reliability assessment under  
19     different scenarios, and they would be able  
20     to do scenarios that would be helpful in  
21     determining the value.

22          Q     So is CALSSA asking the Public  
23     Utilities Commission to request that the ISO  
24     perform such an analysis?

25          A     That is not a current request. We  
26     made this request of CAISO some time ago, and  
27     they said it would be too much work for them,  
28     and they didn't want to do it, and we have

1 not renewed the request, and we are not  
2 renewing that request at this time.

3 Q Okay. Thank you very much.

4 I'd like to go back to the tariff  
5 proposal that you explain in your direct  
6 testimony, and I want to just understand when  
7 CALSSA develops the steps that are with  
8 specific, defined quantities of adoption in  
9 each step, is there any element of the  
10 proposal that would adjust the tariff if  
11 future installed solar costs are lower or  
12 higher than you currently forecast?

13 A If costs are lower, then presumably  
14 adoption will be higher, and the steps,  
15 thresholds, will be reached more quickly.  
16 That's the beauty of having capacity-based  
17 thresholds.

18 Q But if solar costs are lower and  
19 there's quicker adoption, it wouldn't change  
20 the number of customers or number of  
21 megawatts enrolled in each step; would it?

22 A No.

23 Q And it wouldn't have any effect on  
24 the percentage of retail rate to which the  
25 customers are entitled in each step; would  
26 it?

27 A No. It would only get to the next  
28 step more quickly.



1           Q    What assumptions did CALSSA make  
2 about the availability of the federal  
3 investment tax credit?

4           A    We assumed what is current law.

5           Q    And when did you assume that the  
6 investment tax credit is no longer available  
7 for residential customers?

8           A    In 2024 is the current law, January  
9 1st of 2024.

10          Q    Is the investment tax credit also  
11 available to solar installers that provide  
12 leased systems or engage in Power Purchase  
13 Agreements with customers?

14          A    It is.

15          Q    And is it correct that the current  
16 investment tax credit can be claimed for a  
17 project that is placed in service prior to  
18 2026 so long as at least five percent of the  
19 project costs are incurred by the end of  
20 2023?

21          MR. LINDL:   Your Honor, I have to  
22 object. This is calling for a legal  
23 conclusion on what the investment tax credit  
24 law currently says.

25          MR. FREEDMAN:   Your Honor, I'm asking  
26 whether this witness is aware of the  
27 treatment of the investment tax credit, which  
28 they do model on their testimony, and they do

1 have very specific assumptions with respect  
2 to it. I think it's fair to ask whether they  
3 took into account all of the constraints  
4 surrounding the investment tax credit.

5 ALJ HYMES: I'll allow the question.

6 WITNESS HEAVNER: There is a provision  
7 of the investment tax credit that is commonly  
8 known as the "Commence Construction  
9 Provision," and I think that's what you're  
10 referring to. It is mainly a vehicle for  
11 large-scale solar farms, and some commercial  
12 and agricultural systems.

13 I don't think it's available for  
14 residential at all. I could be wrong about  
15 that. If it is, I don't think it's used, but  
16 I think it's not even available, but it's for  
17 commercial customers, larger systems. It is  
18 available to be able to show progress on a  
19 project with significant investment in order  
20 to obtain the ITC.

21 Q Is there any provision of CALSSA's  
22 proposal that would change if congress were  
23 to extend the existing tax credit or expand  
24 it for residential customers?

25 A There is not.

26 Q Okay. Thank you.

27 Let's go to your rebuttal  
28 testimony, page 15, and in this section here,

1 starting on line 3. You discuss the E-3  
2 mandated cost-effectiveness analysis of the  
3 New Solar Home Mandate adopted by the  
4 California Energy Commission.

5 Do you see this section?

6 A Yes. Pages 14 and 15.

7 Q Yes. And I, particularly, would  
8 point your attention to page 15 where,  
9 starting on line 6, you state:

10 Presuming this still holds true,  
11 the CEC would have to cancel the  
12 New Home Solar Mandate if the  
13 Commission adopts the changes to  
14 net metering proposed by the  
15 pro-transmission party.

16 Do you see that?

17 A I do.

18 Q Under questioning from CUE  
19 yesterday, during the hearings, you stated  
20 that the Energy Commission in your opinion is  
21 required to find that the installation of  
22 behind-the-meter solar is cost-effective for  
23 all affected customers who would be affected  
24 under the Title 24 New Solar Home Mandate; is  
25 that correct?

26 A That is the way I stated it.

27 Q So is it your position that the  
28 Energy Commission must cancel the mandate if

1 the Commission adopts a successor tariff that  
2 would fail to satisfy the cost-effectiveness  
3 test for any individual customer?

4 A It was not my intention to suggest  
5 that it would be done for every individual  
6 customer or that one customer outside the  
7 line would obligate them to cancel the  
8 mandate.

9 The point is the mandate has a lot  
10 of opposition. It's difficult for the Energy  
11 Commission to maintain it, and they're going  
12 to have to look at it again under NEM 3, and  
13 I believe they will want to have it be  
14 cost-effective for all customers in a  
15 practical measure.

16 Mr. Plaisted, I think you've had  
17 some experience looking at this. You might  
18 be able to offer more.

19 WITNESS PLAISTED: I mean, yeah. Of  
20 course, the California Energy Commission is  
21 not going to analyze every specific  
22 residential customer in the state, but  
23 presume, as they did in that report, to group  
24 customers by customer grouping, in that case,  
25 by climate zone.

26 They may further look at  
27 single-family attached or single-family  
28 detached to get sort of an assessment of what

1 classes or groupings of customers and how  
2 that mandate impacts various groupings of  
3 customers, but at the very least, clearly it  
4 is by climate zone.

5 Q Thank you.

6 A Yes. I'll stop there.

7 Q With that in mind, I'd like to turn  
8 your attention to what's been marked as  
9 Impeachment Exhibit TURN-12. This exhibit  
10 was circulated yesterday after hearing in  
11 response to questions that were raised during  
12 hearings yesterday.

13 MR. LINDL: Mr. Freedman, this is Tim  
14 Lindl. If I could just interrupt.

15 This was the one that was originally  
16 labeled "Revised-08," but has been relabeled  
17 "12"; right? I just want to make sure  
18 Mr. Heavner and Mr. Plaisted have the right  
19 one in front of them because they may have it  
20 as "Revised-08."

21 MR. FREEDMAN: That's correct. I  
22 apologize for any confusion here. It was  
23 renamed as "TURN-12" this morning in response  
24 to direction from the Judge, and it includes  
25 the revised application of the Sacramento  
26 Municipal Utility District for a Solar Shares  
27 Program and a copy of the California Energy  
28 Commission Resolution that approves this

1 revised application.

2 Do you have that in front of you?

3 WITNESS HEAVNER: Yes, I do.

4 Q Mr. Heavner, are you familiar with  
5 the Sacramento Municipal Utility District  
6 Proposal that is contained in this exhibit?

7 A I am generally familiar.

8 Q And did SMUD submit this proposal  
9 in early 2020?

10 A The timing escapes me. I don't  
11 know. I'm not our lead on this issue.

12 Q Let me move on.

13 Is it your understanding generally  
14 that the utility sought approval from the  
15 Energy Commission to offer a shared solar  
16 option to home builders as an alternative to  
17 installing rooftop solar on each new dwelling  
18 that would be subject to net metering?

19 A It can be characterized that way.  
20 As you likely know, we think this program is  
21 a complete sham.

22 Q Does the program provide a  
23 guaranteed bill discount to participating  
24 customers who subscribe to solar output from  
25 larger facilities located within the  
26 Sacramento Municipal Utility District service  
27 territory?

28 A Yes. And I can't remember if those

1 larger facilities are specifically named or  
2 there's openness to different large  
3 facilities, but in terms of the credit, yes,  
4 that's correct.

5 Q Did CALSSA oppose the Energy  
6 Commission's approval of this application?

7 A Yes, we did.

8 Q And did CALSSA argue that the  
9 approval of this proposal violated state law?

10 A We argued against it in many ways  
11 according to the language that was in the  
12 Building Standard, and I think the Energy  
13 Commission recognized at the time that when  
14 they included the community solar option for  
15 the New Solar Home Mandate, it was somewhat  
16 of an afterthought.

17 It was not well-thought-through and  
18 did not have specific rules around what would  
19 qualify for an approved Community Solar  
20 Program. And so there was a lot of debate  
21 based on that bad language about whether the  
22 SMUD proposal was according to the letter and  
23 the spirit of the community solar portion of  
24 the Building Standards.

25 Q Did CALSSA seek judicial review of  
26 Energy Commissions' approval of this  
27 application?

28 MR. LINDL: Objection, your Honor.

1 We're pretty far afield of Mr. Heavner's  
2 testimony at this point, No. 1, and I don't  
3 see how whether CALSSA appeals the Energy  
4 Commission's approval this would be relevant  
5 to the issues in this case.

6 MR. FREEDMAN: Your Honor, this witness  
7 specifically discusses the program. He's  
8 clearly familiar with the application at  
9 issue here as a staff member and senior staff  
10 member for the organization that was involved  
11 in the Energy Commission process.

12 And my only question is whether  
13 CALSSA challenged the Commission's approval  
14 of the decision. I think it's a fair  
15 question.

16 ALJ HYMES: I'll allow the question.

17 WITNESS HEAVNER: Rather than  
18 challenging it legally, we worked with the  
19 Energy Commission and with SMUD trying to  
20 find a solution that works going forward.

21 With SMUD, we are requesting that  
22 they make certain changes to their program,  
23 and they are discussing that with us. And  
24 for the Energy Commission, they have already  
25 proposed modifications to the requirements  
26 for Community Solar Program under the  
27 Building Standards.

28 BY MR. FREEDMAN:



1           Q    Okay.  Thank you.

2                   I would like you to turn to your  
3 direct testimony pages 52 through 55 where  
4 you described a number of changes to  
5 net-energy metering adopted by various  
6 publicly-owned utilities in California,  
7 specifically the Imperial Irrigation  
8 District, the Turlock Irrigation District,  
9 and the Modesto Irrigation District; do you  
10 see that?

11           A    Yes, I do.

12           Q    Is it your testimony that the  
13 reforms adopted by these utilities have  
14 significantly reduced the economic benefits  
15 of adoption of solar by their customers?

16           A    Yes.

17           Q    Does the Title 24 New Solar Home  
18 Mandate apply to construction in these  
19 publicly-owned-utility-service territories?

20           A    It does.  And I think that is a  
21 significant problem that the Energy  
22 Commission recognizes and is concerned about.

23           Q    So if the reforms that were adopted  
24 by these publicly-owned utilities result in  
25 the New Solar Home Mandate no longer being  
26 cost-effective for customers served by these  
27 publicly-owned utilities, is it your  
28 testimony that the Energy Commission is

1 required to cancel the mandate in its  
2 entirety for the entire state?

3 A They are not mandated to cancel it.  
4 You may be hung up on a word I used in the  
5 data response that may have been "obligated,"  
6 and that's probably an incorrect word to use  
7 there.

8 They won't have an obligation to  
9 make any changes, but there is an expectation  
10 that they will review the standard and change  
11 the net-metering conditions, and they already  
12 are looking at these utilities, and they're  
13 very concerned.

14 Q Okay. Thank you.

15 I'd like to switch to a different  
16 topic, your rebuttal testimony, page 37,  
17 where you discuss the levelization of  
18 lifetime cost in benefits.

19 A Okay. I have it.

20 Q In this section, specifically at  
21 line 6, you state:

22 The correct levelization period in  
23 the ACC is 25 years.

24 Is CALSSA arguing that 25-year  
25 levelized values should be used if the  
26 Commission adopts export compensation that is  
27 tied to the ACC?

28 A I'm not sure what you have in mind

1 when you say "tied to," but I think whether  
2 the compensation is using values directly  
3 derived from the ACC or has a mechanism that  
4 is informed by the ACC, on either case, I  
5 think that 25-year levelized values are the  
6 correct values to use.

7 Q And would the 25-year values be  
8 based on 25 years following the first year  
9 that a new customer takes service on the  
10 successor tariff?

11 A Under our proposal, we have  
12 proposed that reductions of retail rates, a  
13 structure that wouldn't change over time.  
14 The Commission would make the decision now  
15 and say, Here are the percentages.

16 So that would not be informed by --  
17 it would not be altered by future changes to  
18 the Avoided Cost Calculator.

19 Under the alternative glidepath  
20 framework that we suggest the Commission  
21 should consider in our rebuttal testimony, it  
22 would change the export values with each  
23 step.

24 And the only things that the  
25 Commission would need to decide now are what  
26 the levelization period should be; whether  
27 the export rate is directly a result of ACC  
28 or influenced by the ACC, and then just the

1 number of steps in the threshold.

2 In that question, we would still  
3 maintain the position that they should use  
4 the 25-year levelized value from the ACC at  
5 the time that each step begins, though most  
6 importantly in Step 5. They will be using  
7 the ACC at the time.

8 The ACC -- you know, the export  
9 value would not be adjusted every year for  
10 all customers, but it would set the values in  
11 each step.

12 Q So if subsequently-determined ACC  
13 values were lower than the ones used to  
14 inform a particular step of the transition,  
15 you're not proposing that customers that have  
16 already locked into a particular step would  
17 have their rates affected; are you?

18 A The best we can do is to  
19 estimate -- make our best estimates now. To  
20 say that a 25-year estimate is imperfect,  
21 and, therefore, we shouldn't estimate the  
22 future at all, we think is bad policy.

23 So, yes. We should lock each  
24 customer's export value in based on the best  
25 estimate at that time of what the lifecycle  
26 cost and benefits are.

27 Q You're proposing a 25-year  
28 levelized value for a tariff that a customer

1 would be entitled to for 20 years; is that  
2 right?

3 A That's right.

4 Q What would happen in year 21 for  
5 that customer?

6 A We have no proposal. I'm not sure  
7 any party has any proposal, which is a little  
8 surprising to me, but we don't have extremely  
9 strong feelings about that at this point. It  
10 has not been a priority to us to develop a  
11 proposal on that question.

12 Q Okay. Turning to page 38 of your  
13 rebuttal testimony, you provide a table that  
14 identifies levelized and nonlevelized values  
15 here for PG&E in Table 4; are you there?

16 A Yes.

17 Q And under the value shown for  
18 "levelized," are those intended to show  
19 levelized values for the 25 years that begin  
20 with the year shown in the left-hand column?

21 A That is correct.

22 Q How far into the future does the  
23 current ACC forecast values?

24 A That's a good clarification.

25 The ACC ends at 2050. So this is  
26 using the best available data. So in 2026,  
27 that's actually a 24-year levelized value.  
28 In 2027, that's a 23-year levelized value

1 because that's the best that the agency has.

2 Q Thank you. I appreciate the  
3 clarification. ]

4 Moving to page 47 of your rebuttal  
5 testimony, at the very bottom of page 47,  
6 starting on line 26, you state that the --  
7 step 1 would involve setting the export value  
8 as a percentage of rates that matches 20  
9 percent -- 20 percent of the reduction  
10 between NEM-2 export compensation value and  
11 the 25-year levelized ACC solar profile value  
12 for each utility.

13 Would -- how would the NEM-2 export  
14 compensation value be determined?

15 A I think it's simple math. You  
16 know, the rate that exists at the time, you  
17 would calculate as a weighted average based  
18 on the solar profile and the TOU -- default  
19 TOU rate. And then you know what the ACC  
20 value is using a similar solar weighting, and  
21 then you, for the first step, go 20 percent  
22 of the way, and that's their number.

23 Q So you would use current year TOU  
24 rates, current year TOU time periods and  
25 current TOU period rate differentials -- is  
26 that right -- as for the NEM-2 rate?

27 A Yes.

28 Q And that analysis -- I'm sorry. Go

1 ahead, Mr. Heavner.

2 A For the proposal from CALSSA  
3 that -- you determine a percentage reduction,  
4 and then it goes from there. That's very  
5 easy to administer, right? All you need is  
6 to know the percentage, and then it flows  
7 from the current year default TOU rate or the  
8 current year TOU periods and rates. If you  
9 were to change it to a value rather than a  
10 percentage of rates, I believe the same thing  
11 could be done within each TOU period.

12 Q And you're not considering then how  
13 TOU periods or rate differentials might  
14 change passed the current year as part of  
15 this calculation, are you?

16 A No. They would be set according to  
17 the TOU periods in place at the time.

18 Q Okay. Thank you. Let's move to  
19 page 79. Oh. Wait a minute. I'm sorry.  
20 Page 79 of your direct testimony. Your  
21 rebuttal does not have 79 marked pages. And  
22 I'd like to ask you about the rate impact  
23 measure analysis that you performed.

24 Are you on page 79 of your direct  
25 testimony?

26 A I am.

27 Q On line 1, you state, "It's  
28 important to be clear that CALSSA calculates

1 RIM based on exports to the grid." So does  
2 this mean that the impact of behind-the-meter  
3 generation on the customer's demand and  
4 imports are not considered in the analysis?

5 A Self-generation is not included.  
6 This is just an export-only RIM.

7 Q And this means that you are simply  
8 comparing the cost and benefits of any  
9 exports that occur from that customer's  
10 premises across the meter; is that right?

11 A The value of those export credits  
12 for the exported kilowatt-hours under a  
13 weighed average -- solar weighed average  
14 compared to those values in the ACC, those  
15 kilowatt-hour -- yeah, those values. Yes.

16 Q You are aware, are you not, that  
17 the Commission has required in Decision  
18 19-05-019 that the RIM test be considered in  
19 all distributed energy resource proceedings?

20 A I'm willing to accept that.

21 Q Do you know whether the Commission  
22 has identified the RIM test as an approach  
23 for consideration of energy efficiency  
24 portfolio activities?

25 A I've never worked a lot on energy  
26 efficiency in California, but I hear often  
27 that it is not. RIM is not used for energy  
28 efficiency.



1           Q   Well, assuming for one moment that  
2   there's a relevance to the RIM test in  
3   consideration of some energy efficiency  
4   programs, how would your proposed RIM test be  
5   applied to distributed energy resources such  
6   as energy efficiency and demand response that  
7   do not export power to the grid?

8           MR. LINDL:  Objection, your Honor.  Mr.  
9   Heavner just said he doesn't believe that the  
10  RIM test would be applied to energy  
11  efficiency measures.

12          MR. FREEDMAN:  Your Honor, I'm simply  
13  asking how this methodology would be used for  
14  these other types of resources if it were to  
15  be applied at all.

16          MR. LINDL:  Calls for speculation, your  
17  Honor.

18          ALJ HYMES:  Sustained.

19          MR. FREEDMAN:  No, your Honor.

20  BY MR. FREEDMAN:

21          Q   Mr. Heavner, can your RIM test be  
22  used to measure the cost-effectiveness of  
23  resources that never export power?

24          A   An export-only RIM would clearly  
25  not be relevant to a program that does not  
26  involve exports.  As I stated earlier in the  
27  hearing today, I believe that both the  
28  all-generation RIM and the export-only RIM

1 should be considered. I expect them both to  
2 be considered by the Commission in this  
3 proceeding.

4 Q To your knowledge, has the  
5 Commission ever adopted or approved the use  
6 of what you call an export-only RIM test?

7 A It was part of the analysis in the  
8 NEM-2 proceeding. I don't know that the  
9 specifications of the analysis were laid out  
10 in any decision.

11 Q When you say it was included in the  
12 case, you're saying that the Commission  
13 approved it in that proceeding?

14 A The Commission ordered a consultant  
15 to perform that analysis, and it was  
16 considered in the context of the NEM-2  
17 proceeding.

18 Q How does your export-only RIM test  
19 consider the amount of fixed charges that  
20 would be applied to a successor tariff  
21 customer?

22 A It may depend on the type of fixed  
23 charge. When I perform this analysis using  
24 SCE's schedule TOU-D prime, which contains a  
25 fixed charge within the rate, that was  
26 included as a reduction in the export value.

27 Q If there were two successor tariff  
28 proposals that you were evaluating using your

1 test both of which offered identical export  
2 compensation but one of which had different  
3 fixed charges, would the result be any  
4 different?

5 A You could calculate that either  
6 way. Again, the question in evaluating net  
7 energy meeting is what is the impact of the  
8 program, and customers will self-generate  
9 with or without NEM.

10 Q Okay. Mr. Heavner, I'm just trying  
11 to clarify whether when comparing two  
12 successor tariff options, both of which have  
13 equivalent export compensation but different  
14 levels of fixed charges, whether your  
15 export-only RIM test would show any  
16 difference in the results between those two  
17 tariff proposals?

18 A I didn't model this for proposals  
19 that have fixed charges outside of rates. It  
20 could be done either way.

21 Q And when you say "either way," you  
22 mean using a conventional RIM test versus the  
23 export-only RIM test? Or do you mean  
24 something else?

25 A No, I mean including the fixed  
26 charge as a component in the export  
27 compensation. So when you measure the value  
28 of those exports, there's the export

1 kilowatt-hour value, and you can or cannot,  
2 depending on your choice, subtract a fixed  
3 charge from that total annual value or  
4 monthly value.

5 Q But that's not your proposal in  
6 this proceeding, is it?

7 A We do not propose any solar fee or  
8 fixed charge.

9 Q And you haven't done a modeling of  
10 the RIM test using this approach that you  
11 described on other party proposals that takes  
12 into account fixed charges, for example --  
13 the fixed charges?

14 A We have not measured the RIM of  
15 other party proposals.

16 Q Going back to page 13 of your  
17 direct testimony, on line 22, you talk about  
18 the assumptions used in the modeling that you  
19 performed. And you reference a fixed  
20 kilowatt solar system.

21 Do you see that?

22 A Yes.

23 Q What is the size limit for  
24 residential solar system that CALSSA proposes  
25 would be eligible under the successor tariff?

26 A We do not propose a size limit  
27 other than that a system be sized according  
28 to current rules -- sized to customer load as

1 it's done today.

2 Q So no change essentially in the  
3 current policy?

4 A Right.

5 Q Is CALSSA's export compensation  
6 proposal -- would that only apply to  
7 behind-the-meter installations?

8 A It would apply to all net meter  
9 installations.

10 Q Would it be reasonable to apply the  
11 same level of compensation to a system that  
12 is connected in front of the customer's meter  
13 and does not offset any on-site load?

14 A That's a completely separate  
15 question from net meeting, so I don't have an  
16 answer for you.

17 Q So you don't know whether it would  
18 be reasonable to provide any renewable  
19 generator connected to the distribution  
20 system with compensation at the export  
21 compensation rate you're proposing here?

22 A How you would generate -- how you  
23 would compensate a front-of-the-meter  
24 resource involves a whole lot of other  
25 questions that are not within our thinking on  
26 net metering. So I can't answer that  
27 question.

28 Q If a customer had -- was hosting a

1 solar system on its roof and that solar  
2 system were connected in front of the meter  
3 rather than behind the meter, is there some  
4 difference in value that is provided to the  
5 system as a result of where the project is  
6 connected?

7 A Electrically speaking, if it is  
8 installed directly in front of the meter, it  
9 has the same properties as it would if it  
10 were directly behind the meter. If it's  
11 somewhere else on the distribution feeder,  
12 different -- physically different from the  
13 point of common coupling, then there could be  
14 a tiny amount of difference.

15 Q I'd like you to turn to your  
16 rebuttal testimony, page 54.

17 A I am there.

18 Q At the very bottom of this page,  
19 you express opposition to, starting on line 9  
20 on 54, charging solar customers for  
21 transmission and distribution for an estimate  
22 of on-site consumption. And starting on line  
23 1 of page 55, you say, "Such an approach  
24 clearly charges customers for services they  
25 do not receive."

26 Do you see that?

27 A I do.

28 Q Are customers that don't have

1 behind-the-meter resources also required to  
2 pay for services that they do not receive?

3 A A principle of Commission  
4 ratemaking is cost causation, that there  
5 be -- that rates be based on cost of service.

6 Q Would you agree that retail rates  
7 include the cost of many services that are  
8 not directly received by all customers?

9 A We can discuss rate design.  
10 Obviously, it's based on marginal costs, and  
11 it's bulked up for things that are beyond  
12 marginal costs including historic costs most  
13 importantly.

14 Q If I as a non-CARE residential  
15 customer am required to contribute to the  
16 CARE discount provided to low-income  
17 customers, is there a particular service that  
18 I receive in exchange for this payment?

19 A Participation in the system that  
20 takes care of low-income neighbors, that's --

21 Q So in this case, you're saying that  
22 I have received a service from the system,  
23 which is general public welfare; is that  
24 right?

25 A It is a benefit generally.

26 Q And if I don't own an electric  
27 vehicle, what services am I receiving for the  
28 cost collected in my rates that are used to

1 subsidize electric vehicle charging stations?

2           A    Very indirectly, there's a  
3 long-term benefit to electrification for all  
4 society, and that's the benefit.

5           Q    Is it reasonable, in your view, for  
6 a customer who lives, say, in urban San  
7 Francisco to be charged for wildfire  
8 mitigation costs that are incurred to benefit  
9 customers in high-fire threat districts?

10           A    Reducing wildfires is something  
11 that is in everybody's best interest.

12           Q    So in your view, it's fair to  
13 charge customers for some of these programs  
14 that provide societal benefits even if they  
15 don't personally receive a direct benefit as  
16 a result of their contribution; is that fair  
17 to say?

18           A    The reason that we have averaged  
19 rates and we have programs that are collected  
20 via rates.

21           Q    Going to page 61 of your rebuttal  
22 testimony, you say on line 14 -- you're  
23 discussing possible changes that would apply  
24 to existing net metering customers served  
25 under the NEM-1 or 2 tariffs. You say that  
26 few customers would be willing to trust a  
27 condition to provide incentives for further  
28 investments while that same Commission is



1 working simultaneously to undermine the value  
2 of their current investments.

3 Do you see that?

4 A Yes.

5 Q Is it your understanding that the  
6 Commission is permitted, as a matter of law,  
7 to adopt new fixed charges for all  
8 residential customers today?

9 A Yes, they are.

10 Q And would any such charges apply to  
11 all customers including those served under  
12 existing net metering tariffs?

13 A Yes.

14 Q In your view, would the adoption of  
15 any broad-based fixed charges -- would that  
16 prevent customers served under these legacy  
17 net meeting tariffs from being willing to  
18 trust the Commission in the manner that you  
19 describe in your testimony?

20 A When customers install solar energy  
21 systems, there is certainly an awareness that  
22 rates will change over time for those that  
23 are -- understand the concept of rate design,  
24 that rate structure will change over time.  
25 But they don't expect to be singled out, that  
26 they know that here, you know, the rates are  
27 the rates. All customers are subject to  
28 rates. These will change gradually over

1 time, although be mostly predictable and that  
2 net energy metering is a structure that is  
3 set. And the rules around net metering will  
4 not be altered. It doesn't mean the rates  
5 won't be altered.

6 Q So it is your view then that the  
7 real concern of these legacy customers is  
8 being, as you say, singled out for special  
9 charges rather than being subject to  
10 broad-based changes in rate design that might  
11 undermine the value of their investments?

12 A The concept is that a deal is a  
13 deal. And solar contractors have -- are very  
14 protective of their reputation. And we all  
15 are hoping that solar costs go down. The  
16 biggest thing that will make them go down is  
17 reduction of soft costs which includes  
18 relying on referrals. To the extent that  
19 companies need to advertise and get new  
20 customers from cold leads, that pushes up  
21 cost. To the extent that we can have happy  
22 customers that refer their friends,  
23 neighbors, and family, that pushes down  
24 costs. So we want people to have a good  
25 experience and to feel like their solar  
26 contractor was on the level with them. So it  
27 is a fine line. Your pointing, Mr. Freedman,  
28 at a very fine line. And I agree that it's a

1 fine line. But the concept is if customers  
2 feel like a -- that the deal -- when they  
3 thought a deal was a deal and it's not,  
4 that's disruptive.

5 Q Okay. So when you say "a deal is a  
6 deal," you mean customers understand that  
7 their rates might change quite substantially  
8 if the rates of all customers change over  
9 time? Is that what you're saying?

10 A That's an expectation I believe all  
11 customers have.

12 Q And might those rate changes  
13 significantly undermine the value of their  
14 current investments?

15 A There is a risk of that, but I  
16 think a general expectation amongst customers  
17 is that the past trajectory of rates will be  
18 fairly consistent.

19 Q Do you also think that's the case  
20 for the time-of-use periods and the  
21 time-of-use rate differentials that NEM-2  
22 customers are subject to?

23 A Under NEM-2, customers were aware  
24 that they were subject to time-of-use rates  
25 and that those rates and periods could  
26 change. But I think there's a general  
27 expectation that the structure of TOU periods  
28 will not change radically.

1           Q     Turning to page 64 of your rebuttal  
2 testimony, you discuss TURN's proposal to  
3 require paired storage units participating in  
4 a successor tariff to discharge during  
5 certain extreme system stress conditions.

6                     Do you see that?

7           A     Yes.

8           Q     And starting on line 21, you  
9 reference PSPS events in that first sentence.

10                    Do you see that?

11          A     Yes.

12          Q     Is your understanding of TURN's  
13 proposal that it would require potential  
14 customers -- it potentially would require  
15 customer storage to dispatch when a PSPS  
16 event is anticipated?

17          A     TURN's proposal was not clear on  
18 exactly when the utility dispatch would kick  
19 in.

20          Q     So as you read it, it could apply  
21 to PSPS events? Is that what you're saying?

22          A     That's certainly what this  
23 suggests. Yes.

24          Q     How would the dispatch of an  
25 individual customer storage system avoid a  
26 PSPS event?

27          A     Well, if there were a lot of them,  
28 then it will -- if it -- there will come a

1 time when there's enough penetration of local  
2 storage that utilities will better be able to  
3 deenergize parts of circuits that are less  
4 vulnerable to fires and have local generating  
5 resources that can be dispatched.

6 Q But in the case you're talking  
7 about, wouldn't the customer's storage unit  
8 just simply keep that customer energized  
9 during an outage?

10 A Well, that's the tension, isn't it?  
11 If you have a customer that is managing their  
12 battery purely for backup power, then they  
13 would keep it for themselves. If you have a  
14 customer that is open to whatever the utility  
15 thinks is best, then they may not have  
16 anything. If you have a customer that is  
17 co-managing and allocating a certain  
18 percentage of battery capacity for different  
19 purposes, then it's a mix.

20 Q Going to page 46 of your rebuttal  
21 testimony, you discuss proposals for  
22 customers to lock in export compensation  
23 rates over an extended period.

24 A I see it.

25 Q You see that? And on line 24, you  
26 state, "TURN proposes an optional 10-year  
27 lock-in. Those proposals would discourage  
28 customer adoption of DER's because customers

1 would always have an incentive to wait until  
2 the following year when avoided costs are  
3 expected to be higher." Is it your  
4 understanding that TURN's lock-in option  
5 would require the successor tariff customer  
6 to accept the first year ACC value for the  
7 following nine years?

8 A The lock-in, as I understand it, is  
9 that it would -- I actually don't know  
10 whether it's that single year or that year  
11 and the following years as measured in that  
12 single year.

13 Q So you didn't look at the  
14 workpapers to determine whether or not TURN  
15 is proposing to allow all forward values over  
16 the 10-year period to be included in the  
17 lock-in or whether it's limited to just the  
18 first year value?

19 A I spent some time with the TURN  
20 model, and it's got a lot in there. I'm not  
21 sure if your -- by your workpapers, you say  
22 this is embedded in the TURN model.

23 Q Is every avoided cost calculator  
24 update guaranteed to produce higher values  
25 than the prior version?

26 A No. But that has been the case,  
27 and I think it would be fair for customers to  
28 assume that we already have that -- we've

1 always had that case where customers think if  
2 they wait they'll get a better deal. And if  
3 you reinforce that with this policy, that  
4 would suppress the market.

5 Q And if -- if customers were allowed  
6 to lock into the actual forecasted values  
7 over a 10-year time frame, would your concern  
8 about customers waiting until the next year  
9 to get a better deal be addressed?

10 A Could you restate the question,  
11 please.

12 Q If customers were allowed to lock  
13 into the values that were forecast for the  
14 forthcoming 10-year period, all of the values  
15 forecast, not just the single-year values,  
16 would that address your concern about  
17 customers being able to simply get a better  
18 deal if they waited one more year?

19 A We certainly obviously wouldn't  
20 like it as well as using lifetime levelized  
21 values, but yes, it does partially address  
22 that concern. ]

23 Q Okay. Thank you. I think I just  
24 have one more question for you.

25 In your direct testimony, page 8,  
26 you discuss proposals for renters and  
27 low-income customers. And, specifically, on  
28 line 4 of page 8, you state:

1           The customers on CARE and FERA  
2           rates would receive net energy  
3           metering credits at the non-CARE,  
4           FERA rates of their otherwise  
5           applicable rate schedule.

6           Do you see that?

7           A    Yes.

8           Q    And with that in mind, please take  
9           a look at the cross-exhibit, Exhibit TRN-06,  
10          where in Question 5, you're asked about this  
11          proposal.

12          A    I see it.

13          Q    Okay. And you're asked how long  
14          the export credit would be provided, how long  
15          would customers be able to retain a non-CARE  
16          export rate.

17               And am I correct in understanding  
18          that you're proposing that this policy would  
19          be in place until CARE and FERA customers  
20          have a share of annual interconnections  
21          proportional to their population?

22          A    Yes.

23          Q    And by "annual interconnections,"  
24          do you mean each year the percentage reaches  
25          a certain target level, or cumulatively?

26          A    The year at which that parody is  
27          reached. If we get to a point where there  
28          are 20 percent of low-income customers



1 adopting 20 percent of the systems in that  
2 year, it would be time to revisit the policy.

3 Q So you would do a single year  
4 snapshot of current year interconnections?

5 A Yes.

6 Q And if the number were to then fall  
7 below that level in a following year and then  
8 pop up in a future year, are you proposing to  
9 adjust the policy accordingly?

10 A We're not proposing here any  
11 adjustment. But I think in response to your  
12 question, it was a valid question. And it  
13 would be -- it would be logical to revisit  
14 this policy at that time.

15 Q Have you done any forecasting or  
16 modeling of the date by which you think that  
17 CARE or FERA customers would reach this  
18 trigger point, under your proposal?

19 A We have not.

20 (Audio connection lost.)

21 (Court reporter clarification.)

22 ALJ HYMES: Let's go back on the  
23 record.

24 Mr. Freedman, please proceed.

25 MR. FREEDMAN: Your Honor, those are  
26 all of my questions.

27 ALJ HYMES: Thank you.

28 Any redirect?

1 MR. LINDL: Yes, your Honor. Just one  
2 question please.

3 ALJ HYMES: Okay. Please proceed.

4 REDIRECT EXAMINATION

5 BY MR. LINDL:

6 Q Mr. Heavner, Mr. Freedman asked you  
7 about CALSSA's export compensation -- about  
8 how CALSSA's export compensation rates treat  
9 non-bypassable charges; correct?

10 A Yes.

11 Q And do you agree that CALSSA is  
12 proposing that within each step the export  
13 compensation rate is calculated by taking the  
14 retail rate, reducing it by a percentage, and  
15 then subtracting out non-bypassable charges?

16 A That is correct. And I believe  
17 it's stated quite clearly in the testimony.

18 Q Okay. Thank you.

19 No further questions, your Honor.

20 Your Honor, I think you're on mute?

21 ALJ HYMES: Thank you.

22 Next up is the Joint Community --  
23 Joint Utilities.

24 MS. MEIERS-DE PASTINO: Thank you, your  
25 Honor. I'm turning my video on.

26 ALJ HYMES: Please proceed.

27 CROSS-EXAMINATION

28 BY MS. MEIERS-DE PASTINO:

1           Q     Good afternoon. So I would like to  
2 present my questions and let you guys decide  
3 who should best answer them. I think most of  
4 them will be more for Mr. Heavner; but if you  
5 disagree, you can defer to one another.

6                     I would like to start with CSA-01,  
7 which is your prepared direct testimony, page  
8 83, lines 6 to 8. Let me know when you've  
9 gotten there. I'm going there as well.

10           WITNESS HEAVNER: I believe I'm there.

11           Q     Okay. So I believe at those lines  
12 you state:

13                     Key elements are missing from the  
14 TRC and RIM caps, that the  
15 Commission --

16           A     I'm sorry. I must be in the wrong  
17 place. Sorry to interrupt. Did you say  
18 page 83?

19           Q     I believe so. Let me get there  
20 myself, and I'll confirm if I have it right.  
21 Maybe I wrote it down wrong.

22                     Okay. Let's see. We are on page  
23 -- yep, I have it as 83, starting with  
24 line 4, under heading B.

25           A     Okay.

26                     (Unreportable crosstalk.)

27           MR. LINDL: Sorry. I was talking on  
28 mute there. This is Tim Lindl from CALSSA.

1           Ms. Meiers-De Pastino, I don't have  
2 -- on the top of 83, I have figure 22.

3           MS. MEIERS-DE PASTINO: Oh, dear.  
4 Maybe I have a different version of your  
5 testimony. This is -- there's a heading that  
6 starts with "Additional Benefits of CALSSA's  
7 Proposal."

8           WITNESS HEAVNER: Oh, okay.

9           MS. MEIERS-DE PASTINO: Let me see if I  
10 can find in the table of contents where that  
11 is, and I can better direct you. I apologize  
12 if I have --

13           MR. LINDL: I actually have it. It's  
14 on page 82. On our version, that heading is  
15 on line 4. So it's --

16                   (Unreportable crosstalk.)

17           MS. MEIERS-DE PASTINO: Mr. Lindl, if  
18 you want to e-mail me the correct version of  
19 your testimony, maybe I can make this easier  
20 on the witnesses as we go through. And we'll  
21 just carry on for now until I receive it.  
22 I'm sorry. I apologize for the  
23 inconvenience.

24           MR. LINDL: Sure.

25 BY MS. MEIERS-DE PASTINO:

26           Q     So now -- are you there now, Mr.  
27 Heavner?

28           WITNESS HEAVNER: I believe so.

1           Q    Okay. I think that the language  
2 I'm interested in starts with:

3                   Key elements are missing from the  
4                   TRC and RIM test that the  
5                   Commission should include as  
6                   benefits. DERs provide benefits  
7                   for land conservation, avoidance  
8                   of uncalculated future  
9                   transmission needs, and community  
10                  resilience. These are concrete  
11                  impacts that are difficult to  
12                  measure. Also missing from the  
13                  Commission's cost-benefit analysis  
14                  are the impacts of electrification  
15                  on lost utility revenues from DER  
16                  energy production. Because of  
17                  these factors, the Commission  
18                  should consider any TRC and RIM  
19                  score above 0.9 to be  
20                  cost-effective.

21                Do you see that language?

22                A    I see it.

23                Q    Okay. With regard to the last  
24 sentence, you're saying 0.9 as opposed to  
25 1.0; is that right?

26                A    That was our proposal at the time.

27                Q    Okay. And do you still maintain  
28 that proposals should have a TRC or RIM test

1 above 0.9 for the Commission to deem them  
2 cost-effective?

3 A No. After the --  
4 (Crosstalk.)

5 Q I think "no" is responsive. And I  
6 would like to get through the questioning.  
7 Thank you.

8 All right. Staying with that text,  
9 the same text I read you, you identify  
10 several not-yet quantified DER benefits for  
11 your proposal; is that right?

12 A Yes.

13 Q Is it correct that you testified in  
14 your prepared testimony, and as a witness  
15 here today, that you're not relitigating the  
16 2021 ACC in this proceeding?

17 A This language does not recommend  
18 that the Commission incorporate those values  
19 within the ACC, simply that they consider  
20 those values in addition to the ACC. So that  
21 does not constitute --

22 Q Okay --

23 A -- relitigating the mechanics or  
24 the inputs of the ACC.

25 Q And you're not relitigating those  
26 inputs here today?

27 A No, we are not.

28 Q Thank you.

1 I think you also testified earlier  
2 today, in response is to Mr. Freedman's  
3 question, that you think these additional  
4 attributes should be addressed by the  
5 Commission in other proceedings, including  
6 the IRP.

7 Do you remember that testimony?

8 A We were talking specifically about  
9 a more accurate, long-term quantification of  
10 California's transmission needs.

11 Q Okay. Is that one of the  
12 additional values that we just read from your  
13 testimony?

14 A It is one of them, yes.

15 Q Okay. So in your discussion of  
16 these additional individual benefits the  
17 Commission should include, you discuss them  
18 individually through page -- I guess, maybe,  
19 it's 89 in the version of the testimony you  
20 have. I have it indicated as 90 here --

21 (Unreportable crosstalk.)

22 Q Okay. And in that discussion, you  
23 don't describe specific value that you want  
24 the Commission to adopt for each of those  
25 claimed benefits; is that right?

26 A That is right.

27 Q In fact, you state on page 90,  
28 which I guess might be 89 now, and I can't

1 refer you to the exact line; but the sentence  
2 starts with, "Rather than attempting to  
3 quantify."

4 Do you see that?

5 A I see that.

6 Q And the entirety reads:

7 Rather than attempting to quantify  
8 those benefits in this proposal,  
9 CALSSA proposes that the  
10 Commission accept that there is an  
11 economic benefit to all customers  
12 of resilience, uncalculated  
13 transmission avoidance, and land  
14 conservation, in response to  
15 tolerate RIM results for NEM that  
16 are less than 1.0.

17 Is that right?

18 A That's what it says, yes.

19 Q Okay. So, in other words, you are  
20 asking the Commission in this proceeding to  
21 assess values for these individualized, but  
22 not yet quantified, benefits?

23 A To accept value you said?

24 Q No, not to accept; to assess, or to  
25 value, these individualized benefits.

26 A To value them, yes.

27 Q Okay.

28 A We're not suggesting --



1 Q Well, I'm --

2 A -- a specific numeric amount be put  
3 on each value.

4 Q Okay. Instead, you're asking that  
5 the Commission give enough value to the  
6 unquantified benefit to change to outcome of  
7 either the RIM or TRC test, as applied to  
8 your proposal, so that you reach a value of  
9 1.0?

10 A That's not correct.

11 Q You're saying:

12 In response to tolerate RIM  
13 results for NEM that are less than  
14 1.0.

15 Is that right?

16 Isn't that what I read to you on  
17 page -- what probably is --

18 A Your question, as I heard it, was  
19 are we asking the Commission to recalculate  
20 RIM, and that is not --

21 Q That was not my question. That's  
22 actually not my question.

23 My question is:

24 Are you asking the Commission to  
25 assign specific value to these  
26 not-yet-quantified benefits that you've  
27 claimed so that your proposal reaches a  
28 cost-effectiveness of 1.0?

1           A     That would constitute recalculating  
2     the RIM.  And as I just said, we are not  
3     proposing to recalculate the RIM with these  
4     values.  The RIM is --

5           Q     Am I -- I'm sorry.  Go ahead,  
6     please.

7           A     The RIM is among the many things  
8     that the Commission must consider in making  
9     its decision.

10          Q     So when you say, "Rather than  
11     attempting to quantify," you're asking the  
12     Commission to tolerate results that are less  
13     than 1.  You're not asking them to help you  
14     get to a Level 1.0, rather you're asking them  
15     to accept a level below that, because of  
16     these additional attributes; is that right?

17          A     That is right.

18          Q     Okay.  Thank you.  All right.  
19     Let's see.  I'm going to try to find the  
20     correct page number.  Let me see.

21                     (Crosstalk.)

22                     (Reporter clarification.)

23          MR. LINDL:  Can we go off the record  
24     for a second, your Honor?

25          ALJ HYMES:  We'll be off the record.

26                     (Off the record.)

27          ALJ HYMES:  Okay.  Let's go back on the  
28     record then.

1 BY MS. MEIERS-DE PASTINO:

2 Q Okay. So on page -- what I have as  
3 the top of page three, that may now be on a  
4 different page for you, you have a paragraph  
5 that starts with the words -- and this is,  
6 again, your opening testimony -- paragraph  
7 that starts with, "That load increase does  
8 not happen," if you can find the --

9 WITNESS HEAVNER: I see that.

10 Q Okay. Thank you.

11 The second sentence in on that  
12 paragraph states:

13 The transmission lines that  
14 transport electricity from remote  
15 generators to cities and towns are  
16 expensive, are difficult to site,  
17 have long construction lead times,  
18 and, in some cases, have proven to  
19 be lethal catalysts of wildfires.  
20 Distributed energy resources have  
21 the ability to reduce load at its  
22 source, thereby reducing the need  
23 to develop and build high-voltage  
24 transmission lines.

25 Do you see that sentence?

26 A I see that.

27 Q And would you agree that one of the  
28 themes of your testimony is that your

1 proposal will avoid future transmission- and  
2 distribution-grid-related costs?

3 A Yes.

4 Q Okay. When you refer to "DERs" in  
5 that sentence, are you referring specifically  
6 to behind-the-meter, NEM-eligible facilities?

7 A The primary meaning of that is  
8 customer-sited solar and storage. I use DERs  
9 so as not to be exclusive, but that's  
10 certainly what I have in mind.

11 Q Okay. If we can now turn to your  
12 rebuttal testimony -- and hopefully I have a  
13 viable version of this one -- page 4, lines  
14 10 through 12?

15 A I see that.

16 Q The paragraph I'm referring to  
17 starts with, "In addition."

18 Is that the same for you?

19 A It is.

20 Q Okay. So that sentence states:

21 In addition, C-A-I-S-O, CAISO, has  
22 identified the expected growth in  
23 NEM as a primary reason why it  
24 cancelled \$2.6 billion in  
25 transmission projects in PG&E's  
26 service territory in 2018 at the  
27 end of a three-year review of  
28 PG&E's transmission expansion

1 proposals.

2 Do you see that language?

3 A I believe you misread one word when  
4 you said, "expected." And it's -- I heard  
5 you say, "expected." It says, "unexpected:

6 Q Unexpected, you are correct. Thank  
7 you. Okay.

8 So now I would like you to turn to  
9 IOU-07, if you have that in front of you.  
10 The document is entitled, "The Five Comments  
11 of the California Independent System  
12 Operator."

13 A I have it.

14 Q And if you look at page 5, I'm  
15 going to refer you to the second line from  
16 the top, starting with, "the CAISO."

17 A The CAISO conducts?

18 Q Yes. Okay.

19 And so the language that I'm  
20 referring to reads:

21 The CAISO conducts a detailed  
22 evaluation of proposed DER  
23 portfolios to ensure they have the  
24 resource output or load reduction  
25 necessary to meet the identified  
26 reliability or economic objectives  
27 and meet all applicable  
28 reliability criteria, including

1 power quality and transfer  
2 considerations, such as capacity  
3 deliverability, reactive power,  
4 and voltage support. Simple  
5 energy production, i.e., megawatt  
6 hours, is not the sole determinant  
7 for transmission need or  
8 investment. Recently, the CAISO  
9 worked with market participants to  
10 consider both transmission and  
11 non-transmission alternatives  
12 using preferred resources and  
13 storage to address needs in the LA  
14 Basin, Oakland, and Moorpark  
15 sub-area. Therefore, any avoided  
16 transmission costs from DERs are  
17 inherently project, location, and  
18 need specific.

19 Mr. Heavner, based on what I just  
20 read, you would you agree that the CAISO's  
21 overall position in that text is that energy  
22 production by behind-the-meter resources does  
23 not alone have a direct correlation with  
24 transmission deferral?

25 A In relation to the \$2.6-billion  
26 figure that you cited from our testimony --

27 Q Mm-hm.

28 A -- when CAISO announced the

1 cancellation of those projects -- and it was  
2 not a deferral as stated earlier in these  
3 hearings by a witness from Cal Advocates, but  
4 a cancellation as announced by CAISO at the  
5 time -- they very clearly stated that the  
6 primary reason was from load reduction that  
7 was primarily from energy efficiency in  
8 rooftop solar. This is cited on the record  
9 in Protect Our Community Foundation's  
10 testimony. So I agree that this is not the  
11 -- that DERs are not going to be the only  
12 factor. In that case, they declared that  
13 they are the primary factor.

14 Q Okay. Let's turn to page 3, to the  
15 last paragraph starting with the word,  
16 "Although."

17 That language reads:

18 Although the review focused on  
19 projects that were preliminary  
20 load driven, SEIA erroneously  
21 attributes project cancellations  
22 only to recent decreases in load  
23 forecasts, which it in turn  
24 erroneously assumes to be solely  
25 driven by growth in DERs.

26 And then I think below that -- and  
27 then if you skip down to where it says, "In  
28 other words," it continues to say:

1                   In other words, the effects of  
2                   solar behind-the-meter generation  
3                   tend to have a one-time effect of  
4                   pushing demand down in the middle  
5                   of the afternoon and moving the  
6                   daily peak load to later in the  
7                   day, when additional solar  
8                   generation no longer reduces  
9                   demand.

10                  Do you think that that sentence  
11                  stands for the proposition you just  
12                  articulated, that the cancellations were  
13                  primarily driven by load reduction from  
14                  rooftop solar?

15                  A     You just read two separate  
16                  sentences that are in response to something  
17                  SEIA previously stated. I don't know what it  
18                  is that SEIA stated. It's not a statement  
19                  that we made.

20                  I can say that, overall, the point  
21                  of this filing from CAISO is as stated in the  
22                  final sentences of its introductory  
23                  paragraph. Basically, that it's very hard to  
24                  calculate a one-size-fits all for avoided  
25                  transmission. And that is not surprising  
26                  that CAISO would take that position. It is  
27                  very hard to calculate a one-size-fits-all  
28                  number for avoided transmission.



1           But it doesn't mean there is no  
2 avoided transmission. That doesn't mean it  
3 won't be very big in the future. It doesn't  
4 mean CAISO is not concerned about it. But  
5 there's -- simply made with this entire  
6 filing, that's the point that they are  
7 making.

8           And it is consistent with our  
9 testimony that the current avoided cost  
10 calculator has a certain treatment for trying  
11 to calculate a one-size-fits-all avoided  
12 transmission value. And that is inherently  
13 challenging, and CALSSA strongly believes  
14 will change in the future.

15           Q   All right. Thank you. All right.  
16 Let's see.

17           I think that we're going back to  
18 your rebuttal testimony on page -- that I  
19 have as page 4, lines 22 to 23. Let me make  
20 sure that that's right. I think this may not  
21 be the right page, sir. I think we might be  
22 talking about your opening again. So let me  
23 quickly try to find this page. ]

24           Sorry. Bear with me. It is  
25 page 4. I'm sorry. This is in your  
26 rebuttal, CSA-02, page 4, lines 22 to 23.  
27 Let me know when you're there?

28           A   That's not what I have. Page 4 of

1 rebuttal?

2 Q That's what I have. No. I'm  
3 sorry. This is your -- this is CSA-01, but  
4 my page 4, bottom of the page, starting with  
5 a paragraph that begins with "CALSSA agrees."

6 A I do see that.

7 Q Okay. I apologize.

8 It says:

9 CALSSA agrees with other parties  
10 that it's appropriate for NEM  
11 export compensation in daytime  
12 hours to decline, but the  
13 reduction must be gradual over  
14 time.

15 Do you see that?

16 A I do.

17 Q And you don't contend in your  
18 testimony that there is a one-to-one  
19 correlation between utility scale and NEM; is  
20 that right?

21 A I don't know what you mean  
22 "correlation" in terms of what, but,  
23 generally speaking, I think it's a true  
24 statement.

25 Q And you would agree that there are  
26 differences just beyond the size of the  
27 rooftop --

28 A I think you have to be more

1 specific.

2 Q Well, there are differences beyond  
3 just the size of rooftop and utility scale;  
4 is there not?

5 A In terms of what?

6 Q In general, are there differences  
7 between the two types of generating  
8 facilities?

9 A The large-scale solar is connected  
10 to the transmission system and is not behind  
11 the meter.

12 Q That's one difference. I'm not  
13 asking you to list all the defences. I'm  
14 just asking if you agree that there are  
15 differences.

16 A They're not the same thing.

17 Q Okay. One of the differences is  
18 that utility-scale facilities exist for the  
19 purpose of selling and exporting energy to  
20 the grid; is that right?

21 A Well, export isn't -- I'm not sure  
22 what "export" means in that context, but they  
23 generate electricity for use in the  
24 transmission network, yes.

25 Q Okay. And NEM-eligible facilities  
26 are sized to load and are designed to  
27 primarily offset the customer's historical  
28 on-site usage; isn't that right?

1 A Yes.

2 Q And monthly NEM exports are not  
3 considered as supply and do not receive RPS  
4 credits; is that right?

5 A Behind the meet- --

6 Q I should say --

7 A Net-metered generation in  
8 California could theoretically qualify as an  
9 RPS resource, as I understand it, but it  
10 requires registration with WREGIS and  
11 additional metering that makes it cost  
12 prohibitive.

13 Q Okay. But without those things,  
14 monthly NEM exports are not RPS eligible; is  
15 that right?

16 A That's right.

17 Q Okay. And excess energy exports  
18 assessed at the very end of the year are  
19 given net surplus compensation, and that is  
20 an RPS resource; is it not?

21 A I am not aware if it is or is not  
22 actually.

23 Q Okay. That's fair.

24 It's compensated at a different  
25 price than the monthly exports.

26 A Yes.

27 Q And as a general matter because  
28 NEM-eligible resources are sized load, the

1 amount of those annualized NFC-compensated  
2 exports are relatively small compared to the  
3 monthly; is that right?

4 A Typically, that's the case. If  
5 there's any NFC at all, it's small in  
6 comparison.

7 Q Okay. Thank you.

8 One of the features of the  
9 utilities reform proposal, as well as some  
10 other parties' proposals, is that there are  
11 aspects of the utility proposal that will  
12 change over time such as the annual changes  
13 to the Avoided Cost Calculator; is that  
14 right?

15 A (Indicating.)

16 Q And your proposal also requires  
17 periodic updates?

18 A It has its succession of steps, but  
19 within each step, it is consistent.

20 Q Okay. And those steps occur every  
21 two years?

22 A They're designed to be triggered  
23 every two years. That is the expectation.

24 Q Okay. And I think it's your  
25 prepared testimony, as well as some of the  
26 testimony provided here today, that the  
27 export compensation not only changes every  
28 two years with your step proposal, but also

1 that the export compensation rate could also  
2 be subject to change at any time to adjust  
3 for other external factors; is that right?

4 A What external factors are referring  
5 to?

6 Q Well, I mean -- let's say -- the  
7 ITC was extended or market factors required  
8 reassessment.

9 A Your question is whether our  
10 proposals incorporate those changes?

11 Q Well, no. That your proposal  
12 changes every two years and also could change  
13 any time other than those two-year blocks if  
14 necessary.

15 A I don't think the proposal would  
16 change according to the ITC. In my view, the  
17 burden is on other parties if they want to  
18 make a proposal on what would happen if  
19 there's an act of congress that extends the  
20 ITC. I'm somewhat surprised no other party  
21 has done that.

22 Q Okay. So you're saying that if  
23 there were changes other than the two years,  
24 some other party would have to seek them?

25 A I would not make that blanket  
26 statement, no.

27 Q I guess my point is you're not  
28 contending that this is solely a lockstep,

1 every-two-year process; that there is  
2 potential that you would seek other changes  
3 based on whatever the industry needs?

4 A It is not our proposal to have some  
5 lookback to reconsider a piece of it later.

6 Q Okay. Thank you.

7 So if you could turn to rebuttal  
8 testimony, page 41, lines 1 through 7.

9 A Start with, "It is progressing"?

10 Q Yeah, but I'm actually going to  
11 direct you to go down, once you find the  
12 paragraph -- it sounds like you have -- to  
13 line 6. And you say:

14 Levelizing lifecycle costs and  
15 benefits in contrast is a  
16 legitimate way to measure the  
17 average impact of resource that  
18 will be producing energy for 25  
19 years.

20 Do you see that language?

21 A I do.

22 Q Okay. And so it's your position  
23 that 25 years is the best estimate of the  
24 lifetime of a solar rooftop system?

25 A It is a good value to use. There  
26 are different values that could be used, but,  
27 typically, the module warranties have been  
28 for 25 years. And for that reason, probably

1 more than any other, the general mind-set of  
2 the solar industry, at least for me, has been  
3 to measure it in 25 years.

4 Q Okay. I'd like you to turn to  
5 Exhibit IOU-10.

6 MR. LINDL: Your Honor, Tim Lindl for  
7 CALSSA.

8 ALJ HYMES: Yes.

9 MR. LINDL: This was the exhibit that  
10 Ms. Meiers-De Pastino raised yesterday.  
11 CALSSA objects to the use of this exhibit as  
12 a cross-exhibit, and I'm wondering when you  
13 would like us to discuss that issue.

14 ALJ HYMES: Let's discuss that right  
15 now.

16 MR. LINDL: Okay. There's three bases  
17 for our objection to the use of this exhibit.  
18 This is Sunrun's 10-K. It's filed at the  
19 Security Exchange Commission. First, we  
20 object on the basis of foundation, your  
21 Honor. Neither Mr. Heavner nor Mr. Plaisted  
22 has any familiarity with this document, which  
23 is 370 pages long, apart from a handful of  
24 page references Ms. Meiers-De Pastino sent  
25 yesterday. They cannot answer questions on a  
26 document with which they are not familiar.

27 They will testify, if required, that  
28 do not work for Sunrun. They have no



1 knowledge of why Sunrun may or may not make  
2 the statements contained in or excluded from  
3 the 10-K. They had no role in preparing the  
4 document, and they cannot verify this is,  
5 indeed, the 10-K that Sunrun filed with the  
6 SEC.

7           In addition, your Honor, CALSSA did  
8 not cite this document in their direct or  
9 their rebuttal. They did not discuss CALSSA  
10 members' thoughts on the useful life of solar  
11 panels; therefore, the inclusion of this  
12 exhibit also goes beyond the scope of their  
13 testimony.

14           Lastly, your Honor, the prejudice in  
15 including this exhibit outweighs its  
16 probative value. Statements regarding the  
17 useful life of solar panels abound in the  
18 public record. There is no reason to rely on  
19 a 10-K from a nonparty to this proceeding to  
20 make this point.

21           Sunrun, as a nonparty, has no  
22 opportunity to answer the IOUs' question.  
23 They instead would be required to rely on  
24 someone who has no knowledge of the reasoning  
25 behind these statements to answer the  
26 questions, especially within a 370-page  
27 document with substantial information  
28 regarding Sunrun's financial protection and

1 other data in it; therefore, the prejudice to  
2 CALSSA and Sunrun outweigh the probative  
3 value of including this particular document  
4 in the record.

5 And, lastly, your Honor, I have to  
6 say, the IOUs are talking out of both sides  
7 of their mouth here. Mr. Barnes objected  
8 yesterday to exhibits that he thought were  
9 too voluminous that were cited in a party's  
10 testimony, and he called those a "data dump";  
11 yet here the IOUs are trying to put a massive  
12 document with substantial financial  
13 information related to a nonparty into the  
14 record. This should be rejected for the  
15 thinking that it's okay for the IOUs to do  
16 it, but not others. It should not be  
17 accepted here.

18 ALJ HYMES: And, Ms. Meiers-De Pastino,  
19 do you have a response?

20 MS. MEIERS-DE PASTINO: I do, your  
21 Honor. Thank you.

22 First of all, with respect to the  
23 size of the document, I did submit to  
24 Mr. Lindl that I would also use the document  
25 to question these witnesses about a handful  
26 of quotations, and I provided him with the  
27 explicit page numbers and the specific  
28 quotations that I was using to examine the

1 witnesses about.

2           The purpose of the document was  
3 solely to establish that at least one of the  
4 largest companies in the state uses 35-year  
5 instead of the 25-year life expectancy.

6           That this is a company that is  
7 member of CALSSA and actually has a  
8 vice-president that sits on the board for  
9 CALSSA.

10           And Mr. Heavner has presented  
11 himself as an expert in the state, and I,  
12 therefore, think it's appropriate to ask him  
13 if he is aware that one of the largest  
14 entities in this industry uses a different  
15 life expectancy.

16           And I think that this document has  
17 the hallmarks of credibility because it was  
18 filed with the Securities and Exchange  
19 Commission, and it would be very dangerous  
20 for a public company to make statements  
21 publicly that are false, especially in an SEC  
22 filing.

23           So to me this seems like a narrow  
24 use of the document. I've given the other  
25 side opportunity to become familiar with the  
26 relevant provisions for which I seek to enter  
27 it, and I do think it's appropriate that I  
28 should tap Mr. Heavner's knowledge. That is

1 the purpose of cross, to test the evidence.  
2 We have evidence here in opening testimony  
3 that the lifecycle for systems is 25 years.  
4 I have documents to suggest otherwise.

5 MR. LINDL: Your Honor, may I respond?

6 MS. MEIERS-DE PASTINO: You should  
7 allow me to use it -- if I could finish.

8 ALJ HYMES: And I'll allow one more  
9 response.

10 MR. LINDL: Thank you, your Honor.

11 The fact that -- she did send us the  
12 citation. We appreciated that. The problem  
13 is she is still trying to move the entire  
14 370-page document into the proceedings. The  
15 document contains information far beyond the  
16 useful life of a system, and it's prejudicial  
17 to include all that information just to prove  
18 a simple point, especially when another  
19 document could used.

20 And the fact of the matter, the  
21 bottom line is, even if it was reduced in  
22 size, Mr. Heavner has zero knowledge of why  
23 Sunrun says what it says in this document.

24 And he cannot verify that this was,  
25 indeed, the document submitted to the SEC.  
26 There can be no possible ability for her to  
27 lay the proper foundation.

28 MS. MEIERS-DE PASTINO: May I respond

1 to that, your Honor, or have you heard  
2 enough?

3 ALJ HYMES: I've heard enough. I'm not  
4 going to allow this exhibit.

5 MS. MEIERS-DE PASTINO: Okay. Your  
6 Honor, thank you. May I resume my  
7 questioning, your Honor?

8 ALJ HYMES: Yes, please.

9 MS. MEIERS-DE PASTINO: Thank you.

10 Q Mr. Heavner, are you aware that  
11 Sunrun, one of your member companies, uses a  
12 life expectancy for their system that is  
13 greater than 25 years?

14 A (No audible response.)

15 Q I believe you're muted,  
16 Mr. Heavner.

17 A Okay. I imagine different members  
18 use different life expectancies for different  
19 purposes, and I have little knowledge of the  
20 breadth of that.

21 Q Are you aware that Tesla and  
22 SunPower also use the 30 to 35 year?

23 A I am not aware of that.

24 Q Thank you. All right.

25 I think that in your testimony you  
26 generally discuss the importance of bill  
27 savings overall; is that right?

28 A Yes.

1           Q    Would you agree that bill savings  
2 are not guaranteed?

3           A    Yes.

4           Q    In fact, if you turn to page -- I'm  
5 sorry. Not page, but rather IOU-08, do you  
6 recognize this as the Commission's Solar  
7 Consumer Protection Guide?

8           A    Yes, I do.

9           Q    And are you aware that -- if you  
10 turn to page 16, do you see where it  
11 discusses that bill savings are not  
12 guaranteed?

13          A    It says:

14                   Electricity bill savings estimates  
15                   do not guarantee savings.

16          Q    Okay. So I assume that you will  
17 guarantee that there are materials that let  
18 customers know that these bill savings  
19 estimates are not guaranteed?

20          A    We are obligated to distribute this  
21 to all residential customers.

22          Q    Okay. And this is a feature --  
23 this guide at the moment is speaking to  
24 features of the NEM 2.0 tariff; right?

25          A    This has been adopted since the  
26 launch of NEM 2.

27          Q    Okay. Just a couple more questions  
28 on this. Do you agree that the IOU's reform

1 tariff will incentivize solar paired with  
2 storage systems?

3 A I disagree with that statement.

4 Q Can you please turn to your opening  
5 testimony. I have page 2, line 10 to 12, but  
6 I don't think that's correct.

7 Starting with the word "however,"  
8 and then you have a sentence that says:

9 All proposals that reduce export  
10 compensation encourage energy  
11 storage.

12 Do you see that?

13 A This is in direct?

14 Q I believe so. If I can find it  
15 again. Let's see if I can figure out what  
16 page.

17 A It's actually rebuttal, page 2.

18 Q Oh, you're right. My apologies.

19 So it is at line 10, and, actually,  
20 this phrase I'm directing you to is at line  
21 12. So you see that language:

22 All proposals that reduce export  
23 compensation encourage energy  
24 storage?

25 A The meaning is that reducing export  
26 compensation is a mechanism that encourages  
27 storage, but in some proposals, there are  
28 other provisions of the proposal that are a

1 counterweight to that and override that  
2 impact.

3 Q But that's a feature in general,  
4 reducing export compensation, that should  
5 incentivize storage; is that right?

6 A In general, reducing export  
7 compensation while still providing customer  
8 economics that are favorable to installing a  
9 system of any sort would encourage the system  
10 to include energy storage.

11 Q Okay. I'd like to turn now to  
12 Title 24. You would agree that it generally  
13 mandates new homes should be constructed with  
14 solar rooftop systems; is that right?

15 A It is such a mandate.

16 Q Okay. Earlier today, Mr. Parker  
17 from the Public Advocates Office asked you  
18 about your respective backgrounds --

19 (Reporter clarification.)

20 BY MS. MEIERS-DE PASTINO:

21 Q Youwere both asked about your  
22 respective backgrounds. Do both of you  
23 remember that?

24 A Yes.

25 WITNESS PLAISTED: Yes, I do.

26 Q Do either of you have a  
27 professional background in real estate?

28 WITNESS HEAVNER: No.



1           Q    You have not produced any evidence  
2   in your testimony that the cost of mandated  
3   solar are on the margin for homeowners; have  
4   you?

5           A    That the cost of mandated solar are  
6   on the margins for homeowners; is that what  
7   you said?

8           Q    Yeah. Yeah.

9           A    I'm not sure I fully grasp the  
10   question.

11          Q    I think earlier -- and, perhaps,  
12   I'm misunderstanding your testimony -- you  
13   made a statement about solar rooftop systems  
14   being on the margins.

15          WITNESS PLAISTED: That is in the  
16   context of Table 20 of the California Energy  
17   Commission Evaluation Report --

18          Q    Okay. So is that the evidence --

19          WITNESS PLAISTED: -- hearing on one  
20   were technically on the margins for  
21   consumers -- yes.

22          Q    I'm sorry. I interrupted. Sorry,  
23   Mr. Plaisted. Can you repeat that because I  
24   thought you had paused because of a little  
25   bit of a delay, but you had not and I'd like  
26   to have your whole answer.

27          A    Sorry. I think what you're  
28   referring to previous testimony was I believe

1 it was Table 20 of the California Energy  
2 Commission report on cost-effectiveness.  
3 When we refer to "on the margin," it meant  
4 the values were, approximately, just above  
5 and just below 1.0. Is that --

6 Q Okay. So the evidence that you  
7 were pointing to is a table from the  
8 California Energy Commission?

9 A I believe that was the context for  
10 our response.

11 Q Okay. Do you believe that having  
12 solar on a new home would discourage someone  
13 from purchasing that house?

14 A I'll direct that back to  
15 Mr. Heavner.

16 MR. LINDL: Your Honor, I think they  
17 both testified they're not real estate  
18 experts.

19 ALJ HYMES: I agree. Let's move on  
20 from that question.

21 BY MS. MEIERS-DE PASTINO:

22 Q Okay. Well, I'll just leave the  
23 Title 24 testimony, and we'll move on  
24 entirely.

25 ALJ HYMES: Ms. De Pastino, let me just  
26 ask you how much more time you think you  
27 have.

28 MS. MEIERS-DE PASTINO: I think I have

1 about eight more questions, your Honor, and  
2 that's it.

3 ALJ HYMES: I want to give our court  
4 reporters a break. So let's take a break  
5 here until 3:45, and with that, we'll be off  
6 record.

7 (Recess taken.)

8 ALJ HYMES: Let's go back on the  
9 record. Please, proceed.

10 MS. MEIERS-DE PASTINO: Thank you, your  
11 Honor.

12 Q Mr. Heavner, earlier today, in  
13 response to questioning from Mr. Freedman,  
14 you discussed Table 2, which I believe is  
15 page 7 of CSA-01. I now have the amended  
16 testimony and I think I have the page right.  
17 Can you turn to Table 2 for me.

18 A I'm there.

19 Q Okay. The step-down approach that  
20 you describe in that table commences in 2022;  
21 is that right?

22 A That's right.

23 Q And it moves forward every two  
24 years until Step 5, which concludes in 2030?

25 A Step 5 begins in 2030.

26 Q Got it. Okay.

27 Are you aware of when AB 327, which  
28 is the statute the Commission is implementing

1 in this proceeding was enacted?

2 A It was passed in 2013.

3 Q Thank you.

4 And the Commission first  
5 implemented features of that statute in  
6 2016 -- is that right -- when it adopted NEM  
7 2.0?

8 A The NEM 2 decision was January  
9 2016.

10 Q Thank you.

11 So it's now 2021, eight years since  
12 the enactment of AB 327 if my arithmetic is  
13 correct.

14 A Roughly speaking.

15 Q Okay. And so new customers who  
16 sign on in the last step with your proposal,  
17 in Step 5, would be able to maintain 50  
18 percent retail export compensation for 20  
19 years; is that right?

20 A The Step 5 customers would retain  
21 the percentage reduction in Step 5 that is  
22 relevant to them for 20 years.

23 Q Twenty years. Okay. Thank you.

24 So that rate would be in place for  
25 those customers until 2050?

26 A Yes.

27 Q And that's 37 years from the  
28 enactment of AB 327?

1           A     Yes.

2           Q     All right.  So that's potentially  
3 37 years without a cost-effective NEM tariff;  
4 right?

5           A     I don't agree with that.

6           Q     You maintain that this would be a  
7 cost-effective proposal?

8           A     That is the goal.  In the long run,  
9 we have an opportunity now to create a whole  
10 different electric system under very  
11 challenging conditions, and it's going to  
12 take all of the above.  It's going to take  
13 front-of-the-meter storage; it's going to  
14 take behind-the-meter storage; it's going to  
15 take a lot of utility-scale resources.  It's  
16 going to take a lot of transmission, and  
17 despite our testimony, we believe that a lot  
18 of transmission absolutely needs to be built.

19                     What the cost-effectiveness in 2030  
20 will be in the later years, I don't think  
21 it's legitimate for you to suggest that that  
22 is necessarily not cost-effective.

23           Q     Okay.  So you maintain that it may  
24 well be cost-effective 37 years from the  
25 enactment of the statute?

26           A     Yes.

27           MS. MEIERS-DE PASTINO:  All right.  
28 Thank you.  Your Honor, that concludes my

1 questioning.

2 ALJ HYMES: Thank you.

3 Any redirect?

4 MR. LINDL: One moment, please, your  
5 Honor, to confer with my witnesses.

6 ALJ HYMES: We will be off the record.

7 (Off the record.) ]

8 ALJ HYMES: Back on the record.

9 MR. LINDL: Mr. Lindl -- I just called  
10 myself Mr. Lindl. Tim Lindl for CALSSA.

11 Your Honor, we do not have any  
12 redirect.

13 ALJ HYMES: Okay. Thank you.

14 Off the record.

15 (Off the record.)

16 ALJ HYMES: We are on the record.

17 EXAMINATION

18 BY ALJ HYMES:

19 Q Okay. I have several questions,  
20 although I'm hoping to get through them in 10  
21 minutes to remain relatively on schedule.

22 So we talked a lot today about  
23 yearly bill savings for customers -- for  
24 solar customers versus the payback period. I  
25 believe you spoke in great depth with Mr.  
26 Parker about this.

27 So Mr. Heavner, you work a lot with  
28 other -- with developers as part of CALSSA's

1 membership, and I'm wondering if you have a  
2 good understanding of what solar providers  
3 discuss with their customers with respect to  
4 the benefits of solar?

5           A    I think the thing that is most  
6 looked at in a proposal that is presented to  
7 a customer is the annual cash flow. And most  
8 of the solar proposals, the standard format  
9 that I see has various numbers of payback in  
10 years and other measures. But it will have a  
11 table with a year-by-year cash flow. There's  
12 so much up-front. You get a little bit of  
13 tax credit back. You're saving so much. And  
14 year eight -- look at this. You're above --  
15 you're back in the black. And I think that's  
16 the thing that is most understandable to  
17 customers that is most often discussed.

18           Q    So do customers understand -- or  
19 rather, does this cash flow call out any  
20 specifics of that cash flow, whether or not  
21 that cash flow indicates yearly bill savings  
22 and/or payback?

23           A    It does. It typically includes  
24 cost and bill savings and a cumulative bill  
25 savings. And the customer will see I'm in  
26 the red, I'm in the red, I'm in the red.  
27 Year whatever, I'm in the black. This is my  
28 payback. That's understandable to people,

1 and it's laid out in that year-by-year way.

2 Q Okay. Okay. Continuing on,  
3 talking about export compensation prices for  
4 commercial. On -- in CSA-01, on page 17 to  
5 18 -- let me just make sure I have the right  
6 pages. So here you wrote that commercial  
7 solar installations decreased in 2020. And  
8 you propose -- CALSSA proposes to maintain  
9 NEM-2 for commercial as well as agricultural  
10 customers. Has CALSSA considered other  
11 alternatives to maintaining NEM-2 for -- or  
12 rather, does CALSSA have any other proposals  
13 for how to increase commercial and  
14 agricultural solar and storage insulation  
15 uptake?

16 A The hope is that storage sinks in  
17 among commercial customers in terms of  
18 customer acceptance more than anything else,  
19 so of course, price. So we're at a point  
20 where we're close to providing a financial  
21 return on solar plus storage for certain  
22 types of customers. There's still a  
23 customer-acceptance hurdle in the business  
24 community that needs to be overcome, and  
25 we're getting there. So the -- the -- I  
26 think that nearly all proposals going out, as  
27 I hear anecdotally, for commercial customers  
28 include storage at least as an option. So



1 customers are thinking about it very much in  
2 terms of solar plus storage now, and the  
3 financial numbers are close. The biggest  
4 breakthrough that we'll see is with dynamic  
5 pricing, and we're encouraged by the  
6 Commission's interests. CALSSA has been a  
7 leading proponent of realtime pricing in  
8 addition to programs similar to demand  
9 response where, you know, we've got batteries  
10 that can do exactly what the grid needs, tell  
11 us, put the value in it, and let's do it. So  
12 I expect some years from now that to be the  
13 dominant motivator.

14 Q Okay. So while we're talking about  
15 storage, on page 6 of Exhibit CSA-01, do you  
16 talk about limited battery availability and  
17 high soft cost for storage projects? Or -- I  
18 didn't notice that there were actual  
19 information sources for them. But are  
20 there -- are there sources that show the  
21 existence of these barriers, the limited  
22 battery availability and the high soft cost?

23 A In rebuttal, we cited four  
24 different journal articles on this subject.  
25 And I'm not sure I can put my finger on it,  
26 but there's one paragraph where it has four  
27 successive sentences that address this  
28 question, the citations.

1           Q     Okay. Has CALSSA done any surveys  
2 amongst their -- your membership to ascertain  
3 any additional information regarding these  
4 barriers?

5           A     No formal surveys, but we're  
6 constantly asking companies how it's going,  
7 you know. CALSSA's been the number one fan  
8 of getting solar companies to really get into  
9 storage. And so we're always encouraging  
10 them. "Is it working for you? Are you  
11 really, you know, putting storage in your  
12 proposals?" And we hear a range of different  
13 things, and the -- a lot of people are  
14 complaining, "I would if I could, but I  
15 can't" -- the smaller contracts can't get --  
16 the contractors are having a hard time  
17 getting their hands on batteries because  
18 they're -- you know, the available supply is  
19 locked up by the larger volume contractors.  
20 It's not universally true, but it's a trend.  
21 I feel like I'm losing track of your  
22 question, though.

23           Q     No, no. But my next related  
24 question is do you -- does CALSSA see any --  
25 any light at the end of the tunnel, so to  
26 speak, with respect to these two barriers,  
27 and do you know what that timeline is to  
28 getting to the -- the light at the end of the

1 tunnel?

2           A     Yes. We are very hopeful that a  
3 vast majority of solar systems will come with  
4 batteries in the near future. A time frame  
5 that I often hear that I always say is  
6 typical or average is four years. Companies  
7 are very concerned about the next four years.  
8 It's going to be tight both because of  
9 battery availability and also of codes and  
10 standards are a big issue. You can talk to a  
11 solar contractor, but you know, the policies  
12 issues we talked about are foreign to them.  
13 They are all about code compliance, building  
14 to code, doing safety, passing inspection.  
15 And it really matters a lot.

16                 So the -- you know, there's a big  
17 debate right now about under what conditions  
18 can a battery be installed in a garage. Can  
19 it be in front of the car, the side of the  
20 car. Do you need (inaudible). Do you need  
21 fire protection, a heat protector. These are  
22 big important questions, and it takes these  
23 code making panels years to get the language  
24 rights and to get adopted and really taken up  
25 by local jurisdictions. But it's happening.  
26 That's the other big barrier I point to. But  
27 I think of a four-year time frame. And I'm  
28 probably a hopeful person, but I just have

1 this vision that four years from now there is  
2 widespread availability at a reduced price  
3 and codes and standards that are worked out.

4 Q Okay. And do you discuss those  
5 codes and standards barrier in your  
6 testimony?

7 A We do.

8 Q Okay. Okay. So talking about  
9 barriers, are -- have you heard from your  
10 membership as to whether or not there are  
11 barriers for customers or steps they have to  
12 take before electrifying home energy uses?

13 A Well, the biggest one is the main  
14 panel upgrade that typically if you install  
15 an electric vehicle or often a solar system  
16 the battery or sometimes probably other  
17 electric appliances you need a larger  
18 electrical panel. So that's one. It adds  
19 costs. For some homes, it's -- you have to  
20 move where the panel is, which is to be  
21 compliant with more recent code. So that's  
22 difficult. That's what I would mention.

23 Q You said the cost. Is there  
24 anything in your testimony that talks about  
25 the cost of that panel?

26 A There is when we're talking about  
27 what's not included in the NREL ATB price  
28 baseline.

1           Q    And would you -- are there any --  
2 any other upgrades that would rise to that  
3 same level of cost?

4           A    There are timeline issues with  
5 local transformer upgrade. If a lot people  
6 on the block are all getting EVs, the utility  
7 is going to have to gradually replace a lot  
8 of transformers, and then there are delays  
9 with that. But those are it. I mean, really  
10 there's a lot of customer excitement.  
11 There's a lot of contractor excitement.  
12 There's a lot of innovation in the products  
13 that have energy hub that can plug in the  
14 electric vehicle and the dynamic water heater  
15 and the solar with storage. And there's a  
16 lot of excitement about that.

17           Q    Okay. So I have three more  
18 questions. Two are more customer protection  
19 and then one on low income. So with respect  
20 to terms of service, on page 7 of Exhibit  
21 CSA-01, you proposed a 20-year duration of  
22 service.

23                   Is this based on data that you've  
24 collected?

25           A    This is based on prior expectations  
26 and then the fact that it is comfortably more  
27 than double the typical payback period,  
28 right, the cost recovery period, as we

1 repeatedly call it in our testimony because  
2 it's really more accurate, you're recovering  
3 costs. You're in the red during the cost  
4 recovery period. And to say you're all good  
5 as soon as you hit that threshold, it's just  
6 not right. So doubling the cost recovery  
7 period is a reasonable time frame to have as  
8 an expectation for, you know, what's going to  
9 happen with the system.

10 Q Did you consider shorter periods of  
11 time?

12 A We see the three- or four-year  
13 numbers that have been put out by other  
14 parties, and that just seems not appreciably  
15 different than a one-year. There are numbers  
16 between 10 and 20. I'll say that. We  
17 haven't, you know, fully endorsed another  
18 number, but they are out there.

19 Q Have you conducted any research or  
20 done any surveys specifically on shorter --  
21 shorter time periods?

22 A Surveys in terms of whether  
23 customers would be comfortable with that, no.  
24 No.

25 Q Okay. Okay. So let's turn to --  
26 are there any state or national laws or other  
27 standards -- we were talking about  
28 standards -- for -- either in effect or

1 available with -- which ensures that no  
2 forced labor or other labor abuses were  
3 involved in the supply chain for solar  
4 modules, inverters or other equipment used in  
5 solar installation?

6 A There has been a lot of attention  
7 to this because of some reports of forced  
8 labor in the Chinese province of Xinjiang and  
9 getting the manufacturers to pledge that they  
10 won't use any of that type of labor, engage  
11 in those practices. And then it's just a  
12 matter of the guarantees. You have  
13 manufacture -- Mr. Plaisted can probably talk  
14 about this sort of thing, more aware.  
15 Manufacturer attestations are spot-checked by  
16 third-parties.

17 WITNESS PLAISTED: Yes, I could speak  
18 to that briefly. I mean typically, with  
19 regard to product quality, right, we will  
20 have manufacturers represent the warranties  
21 to us, that the product are made to a  
22 standard and specification, and then we will  
23 spot-audit without notice those facilities to  
24 make sure they are in compliance. So I think  
25 it would be a matter of choosing a standard  
26 to prevent the forced labor and labor abuses.  
27 The industry could come up with an  
28 agreed-upon standard as has happened in other

1 industries, and then they would only qualify  
2 those venders that were compliant to the  
3 standard and subject to audit.

4 Q Okay.

5 A Would be a typical approach.

6 Q What do you think -- if you were to  
7 look five years into the future, would --  
8 given the current -- the current level of --  
9 oh -- regulations or agreement on these  
10 labor -- labor practices that you just spoke  
11 to, do you see -- do you see improvements  
12 over the next 5 to 10 years?

13 A Um, there's certainly -- I can only  
14 speak my direct experience in this matter.  
15 It goes back to the period 2013 to 2018 when  
16 I was off and in China auditing our  
17 facilities and our customer facilities.  
18 Yeah. Given a directive or given a  
19 requirement to meet new standards, five years  
20 should be enough to achieve compliance for a  
21 majority of the supply chain.

22 Q Okay.

23 WITNESS HEAVNER: And could I add a  
24 little something there? I think a lot of  
25 progress has been made in the past 6 to 12  
26 months because a lot of attention has been  
27 put on this issue. And it is -- I am not  
28 directly involved, and SEIA has been more



1 involved as a national association. It's my  
2 expectation that the major manufacturers are  
3 already staying out of Xinjiang. They don't  
4 need trouble, right? There's plenty of  
5 places to manufacture solar panels. So, you  
6 know, all the big ones are probably already  
7 scot-free from this stuff. I can't guarantee  
8 it, but that, you know, would be my sense of  
9 the situation. And then the question is are  
10 there some smaller manufacturers that have  
11 abusive labor practices? That's always a  
12 concern, and we should do more to enforce  
13 standards.

14 Q Okay. Okay. I just have one more  
15 question, and this is with respect to low  
16 income -- your low-income proposal and the  
17 eligibility. So looking at Exhibit CSA-01 on  
18 page 8, which is where you discuss this, you  
19 proposed that residential customers with  
20 income below 80 percent of the area median  
21 income receive NEM-2 credits at full retail  
22 rates minus the non-bypassable charges.

23 Are there any -- actually, did you  
24 look at several levels or rather several  
25 percentages, or did you only look at 80  
26 percent? For example, did you look at 60  
27 percent? And why or why not?

28 A 80 percent is a level that is

1 recommended to us by one of our member's grid  
2 alternatives, and they pointed to the  
3 Commission's adopted environmental and social  
4 justice action plan, which has this as the  
5 threshold for what is considered low income.  
6 And this threshold is also used in other  
7 Commission-adopted programs that are in place  
8 today. So it felt to me when grid  
9 alternatives made us aware of the places  
10 where this definition is already used that it  
11 was just the clear choice.

12 ALJ HYMES: Okay. All right. I have  
13 no further questions.

14 And Mr. Lindl, do you have any  
15 redirect?

16 MR. LINDL: Your Honor, just one minor  
17 question that I thought might help you put  
18 your finger on some helpful data here, if you  
19 don't mind.

20 REDIRECT EXAMINATION

21 BY MR. LINDL:

22 Q Mr. Heavner, you stated that you  
23 have not conducted surveys on customer  
24 acceptance for shorter cost recovery period,  
25 but you do include data on likely adoption  
26 rates under different cost recovery periods  
27 in your direct testimony, correct?

28 A Yes.

1           Q    And where are those, if you know  
2 off the top of your head?

3           A    Um, in the cost recovery section,  
4 there are the curves that show the  
5 differences. That is different than the  
6 term. And -- but -- so this is based on the  
7 NREL data we were discussing earlier today.  
8 And so in our cost recovery section, we have  
9 figure 15 and figure 14 with those adoption  
10 curves. And again, I think a 2X of payback  
11 is a good rule of thumb as a minimum.

12           MR. LINDL: No further questions, your  
13 Honor.

14           ALJ HYMES: Okay. Thank you,  
15 gentlemen.

16                   Let's be off the record.

17                   (Off the record.)

18           ALJ HYMES: Oh, actually, let's go back  
19 on the record.

20                   I wanted to formally excuse both Mr.  
21 Heavner and Mr. Plaisted on the record. So  
22 thank you very much, gentlemen.

23                   Now we'll go off the record.

24                   (Off the record.)

25           ALJ HYMES: We'll be back on the  
26 record.

27                   So Mr. Beach, will you please raise  
28 your right hand.

1 THE WITNESS: (Witness complying.)

2 ALJ HYMES: Do you solemnly state under  
3 penalty of perjury that the testimony you  
4 give in the case now pending before this  
5 Commission shall be the truth, the whole  
6 truth and nothing but the truth?

7 Do you attest that you will testify  
8 based on your own knowledge and memory free  
9 from external influences or pressures;

10 That you will adhere to all formal  
11 requirements of testifying under oath  
12 including the prohibition against being  
13 coached;

14 That you will only refer to  
15 materials provided by the parties, exhibits  
16 premarked and identified by the parties and  
17 previously shared with the opposing party;

18 That you will not make any recording  
19 of the proceeding;

20 That you understand that any  
21 recording of the proceeding held by Webex  
22 including screenshots or other visual copying  
23 of a hearing is absolutely prohibited;

24 Attest to understand that violation  
25 of these prohibitions may result in sanctions  
26 including removal from the evidentiary  
27 hearing, restricted entry to future hearings,  
28 denial of entry to future hearings, or any

1 other sanctions deemed necessary by the  
2 Commission;

3 Attest you will not engage in any  
4 private communications either by phone, text,  
5 email or any mode of communication while  
6 under oath and being examined;

7 And then finally, if you experience  
8 any attempts to tamper with your testimony,  
9 you will report the occurrence to me  
10 immediately.

11 Witness Beach, do you agree to these  
12 attestations?

13 THE WITNESS: Yes, I do.

14 THOMAS BEACH, called as a witness by  
15 Solar Energy Industries Association and  
16 Vote Solar, having been sworn,  
17 testified as follows:

18 ALJ HYMES: Okay. Thank you.

19 Ms. Armstrong, you may proceed.

20 DIRECT EXAMINATION

21 BY MS. ARMSTRONG:

22 Q Okay. Mr. Beach, do you have  
23 before you what has been marked as Exhibit  
24 SVS-03, the prepared direct testimony of R.  
25 Thomas Beach on behalf of the Solar Energy  
26 Industries Association and Vote Solar?

27 A Yes, I do.

28 Q And do you also have before you  
what's been marked Exhibit SVS-04, the

1 prepared rebuttal testimony of R. Thomas  
2 Beach on behalf of the Solar Energy  
3 Industries Association and Vote Solar?

4 A Yes, I do.

5 Q And were these two pieces of  
6 testimony prepared by you or under your  
7 supervision?

8 A Yes, they were.

9 Q Do you have any corrections to  
10 either these pieces of testimony?

11 A Yes, I have three minor corrections  
12 to the rebuttal testimony. The first one is  
13 on page 10 of the rebuttal in footnote 21.  
14 And at the end of the first line of that  
15 footnote, there's the figure \$2.36 per  
16 kilowatt-hour. That should be \$2.26 per  
17 kilowatt-hour.

18 The second correction is on page 11  
19 in footnote 29 in the fourth -- the third  
20 line of that footnote, the word "fire" is  
21 misspelled. It should be spelled correctly.

22 And then finally, on page 35, line  
23 18, there's a sentence on that line that  
24 says, "This produces somewhat lower payback  
25 in 2030." The word "lower" should be changed  
26 to "longer," l-o-n-g-e-r. And those are the  
27 three corrections.

28 Q Okay. Thank you. And with these

1 corrections, do the statements of fact -- are  
2 the statements of fact that are contained in  
3 these two pieces of testimony true and  
4 correct to the best of your knowledge?

5 A Yes, they are.

6 Q And to the extent that these two  
7 pieces of testimony contain statements of  
8 opinion, do they constitute your best  
9 business judgment?

10 A Yes.

11 Q And do you adopt Exhibit SVS-03 and  
12 SVS-04 as your sworn testimony in this  
13 proceeding?

14 A Yes, I do.

15 MS. ARMSTRONG: Thank you. The witness  
16 is available for cross-examination.

17 ALJ HYMES: Thank you.

18 Ms. Koss.

19 CROSS-EXAMINATION

20 BY MS. KOSS:

21 Q Good afternoon, Mr. Beach. I'm  
22 Rachael Koss. I'm here on behalf of the  
23 Coalition of California Utility Employees.  
24 Nice to see you again. It's your position  
25 that there is a NEM cost shift because the  
26 cost of solar used to be higher; is that  
27 right?

28 A Yes. That's -- that's certainly

1 one of the reasons for the cost shift.

2 Q And now that the cost of solar are  
3 less it is appropriate for the NEM tariff to  
4 provide less revenue to NEM customers, right?

5 A Yes.

6 Q And if a new technology came along  
7 that costs even less, it would be appropriate  
8 to lower the NEM tariff even further, right?

9 MS. ARMSTRONG: Objection. I'm not  
10 sure what she means by "new technology." New  
11 solar technology or -- I'm not quite clear  
12 what you're asking.

13 MS. KOSS: Yeah. Technology that would  
14 fall under the NEM tariff.

15 THE WITNESS: Possibly. If that's  
16 what -- if that's what ends up happening. ]

17 Q Okay. So you agree that if a new  
18 technology came along that was less  
19 expensive, it would be appropriate to lower  
20 the NEM tariffs?

21 A Yes.

22 Q Okay. And if a technology existed  
23 today, which costs less than rooftop solar,  
24 it would be appropriate for the NEM tariff to  
25 provide less revenue to NEM customers, would  
26 you agree with that?

27 MS. ARMSTRONG: Objection. Are you  
28 talking about a technology the existed today



1 that was part of the NEM tariff, or are you  
2 talking about a technology that was outside  
3 the scope of the NEM tariff?

4 BY MS. KOSS:

5 Q A solar technology that could be  
6 under the NEM tariff or not necessarily under  
7 the NEM tariff, just a solar technology.

8 A Well, I would not agree that just  
9 because there's a solar technology that's not  
10 part of the NEM -- that's not scalable and  
11 able to be located behind customers' meters  
12 -- I mean that's what net metering is about,  
13 it's about customer-sited generation. There  
14 -- you know, so it would have to be a  
15 technology that can be sited you know, on  
16 your -- at your home or business on your  
17 premises behind the meter that produces  
18 electricity, some of which you use onsite and  
19 some of which you might export to the grid.  
20 I mean, that's what net metering is all  
21 about. So it would have to be a technology  
22 that provides electricity on that basis.

23 Q Okay. So if there was a technology  
24 that provided electricity on that basis that  
25 exists today and costs less than rooftop  
26 solar, it would be appropriate for the NEM  
27 tariff to provide less revenue to NEM  
28 customers.

1                   Would you agree with that?

2           MS. ARMSTRONG:  Objection.  Could you  
3 clarify, would this technology be a  
4 NEM-qualified technology?  I think it's  
5 important to the questions.

6           MS. KOSS:  Yes, I agree.  And it would  
7 qualify under NEM.

8           THE WITNESS:  I mean, if it's a -- you  
9 know, a behind-the-meter generation  
10 technology that's widely available and, you  
11 know, less expensive than putting solar  
12 panels on your roof, then it certainly might  
13 be appropriate to adjust the tariff.

14 BY MS. KOSS:

15           Q    Okay.  So, essentially, the NEM  
16 tariff -- it would be appropriate to adjust  
17 the NEM tariff based on the  
18 cheapest-available technology; is that right?

19           MS. ARMSTRONG:  Asked and answered.  I  
20 think we're going down the same road over and  
21 over again.

22           ALJ HYMES:  I agree.

23 BY MS. Koss:

24           Q    Okay.  Let's move on.  Let's talk  
25 about resiliency.  You discuss it quite a bit  
26 in your testimony.  And it's your position  
27 that solar and storage give the customer with  
28 solar and storage some resiliency; is that

1 right?

2 A Yes. It can enable them to  
3 maintain a certain level of electric service  
4 during a prolonged outage of the power grid.

5 Q Okay.

6 A And that's what I mean by  
7 resiliency.

8 Q Okay. And let's assume you have a  
9 solar storage system at your house and I  
10 don't. So you have some resiliency from  
11 that, and I don't have a system, so I don't  
12 have that resiliency; is that right?

13 A Well, that appears to be the  
14 hypothetical that you've asked me about.

15 Q Okay. So in that hypothetical,  
16 should you pay for your resiliency, or should  
17 I pay for your resiliency?

18 A Well, I -- you know, I -- I have  
19 paid for -- I've paid for the system that  
20 provides resilient electric service at my  
21 house. But if you're my neighbor and there's  
22 a major earthquake and I'm the -- you know, I  
23 have the house on the street that has  
24 electricity, and you come to me and say, "I  
25 need the charge my cell phone," or "I have  
26 some medicine that I really need to have  
27 refrigerated," I'm going to say, "Yes, I'll  
28 help you out."

1           And you know -- yes -- the thing  
2     about resiliency is that you have to realize  
3     it's something that's going to happen when we  
4     have a disaster, when we have an extreme  
5     event. And in those circumstances, people  
6     help each other. And so that resiliency is  
7     not just a private benefit, it's a public  
8     benefit to everybody. Because the  
9     circumstances in which it comes into play are  
10    circumstances in which people help each other  
11    out.

12           Q     Okay. But if you have solar and  
13    storage and I don't and there's an outage,  
14    your lights stay on and mine don't; right?

15           A     Possibly, yes.

16           Q     So should I pay for your lights  
17    staying on? Or should you pay for your  
18    lights staying on?

19           A     Well, I think that it's not so much  
20    -- you're not paying -- certainly not paying  
21    directly for my lights staying on. But it --  
22    I think you are benefitting from my lights  
23    staying on. And I think you would agree that  
24    if it's the -- you know, the local fire  
25    station or the local emergency clinic or the  
26    local school that's, you know, an emergency  
27    hub, I mean, I think we all agree that that  
28    has public benefits, and we all benefit from

1 those kinds of installations being resilient.

2 But I think that there's a --  
3 there's also a benefit from individual  
4 customers having resilient systems. And if  
5 you've ever been part of, you know, a  
6 neighborhood watch group or a neighborhood  
7 group that's been organized to prepare for  
8 emergencies like that, you release that in  
9 those circumstances, we're all going to be in  
10 it together. And private resources quickly  
11 become public benefit under those  
12 circumstances.

13 Q Okay. But you live in the East  
14 Bay, and I live in Marin. So you have solar  
15 and storage and your refrigerator stays on  
16 during an outage and your lights stay on  
17 during an outage, I don't benefit from your  
18 refrigerator or lights staying on, do I?

19 A Yeah. But, you know, if you're in  
20 Marin, you're going to have neighbors who  
21 will have solar plus storage. I don't think  
22 that matters a bit. If -- it's really a  
23 question of let's get this technology out  
24 there so that it -- it's widespread and  
25 growing and many people have homes that have  
26 resilient electric service. And you will  
27 have neighbors in Marin that will help you  
28 out. And I'm -- you know, I will be happy to

1 help my neighbors in the East Bay.

2 Q Well, it would be nice to think  
3 that way. I'm not sure that's fact. Perhaps  
4 that's your belief.

5 Thank you. I don't have any more  
6 questions.

7 ALJ HYMES: Any redirect?

8 MS. ARMSTRONG: No.

9 ALJ HYMES: Okay. Let's go off the  
10 record.

11 (Off the record.)

12 ALJ HYMES: We'll be back on the  
13 record.

14 While we were off the record, we  
15 discussed the schedule for tomorrow. And the  
16 schedule for tomorrow will be the  
17 continuation of the cross-examination for  
18 Witness Beach from -- representing SEIA/Vote  
19 Solar. And several parties stated that they  
20 wanted to make motions to admit exhibits into  
21 the record today.

22 I will begin with Mr. Freedman.

23 MR. FREEDMAN: Thank you, your Honor.

24 TURN moves, at this time, for the  
25 admission of the three cross-examination  
26 exhibits we used today, Exhibit TRN-06,  
27 TRN-07 and TRN-12.

28 ALJ HYMES: Thank you.

1 Are there any objections to  
2 receiving TRN-06, TRN-07 and TRN-12 into the  
3 record?

4 (No response.)

5 ALJ HYMES: Hearing no objections,  
6 TRN-06, TRN-07, and TRN-12 are received into  
7 the record.

8 (Exhibit No. TRN-06 was received  
9 into evidence.)

10 (Exhibit No. TRN-07 was received  
11 into evidence.)

12 (Exhibit No. TRN-12 was received  
13 into evidence.)

14 ALJ HYMES: Mr. Lindl?

15 MR. LINDL: Yes. Thank you, your Honor  
16 Tim Lindl on behalf of the California Solar  
17 and Storage Association. We move to admit  
18 CSA-01 and CSA-02 into the record.

19 ALJ HYMES: Thank you.

20 Are there any objections to  
21 receiving CSA-01 and CSA-02 into the record?

22 (No response.)

23 ALJ HYMES: Hearing no objections,  
24 CSA-01 and CSA-02 are received into the  
25 record.

26 (Exhibit No. CSA-01 was received  
27 into evidence.)

28 (Exhibit No. CSA-02 was received  
into evidence.)

ALJ HYMES: Ms. -- well, let me jump to

1 Mr. Parker.

2 MR. PARKER: Yes, ma'am. Wayne Parker  
3 representing the Public Advocates Office. We  
4 would like to have exhibits PAO-07 and  
5 PAO-11.

6 ALJ HYMES: Thank you. Are there any  
7 objections to receiving PAO-07 and PAO-11  
8 into the record?

9 (No response.)

10 ALJ HYMES: Hearing no objections,  
11 PAO-07 and PAO-11 are received into the  
12 record.

13 (Exhibit No. PAO-07 was received  
14 into evidence.)

15 (Exhibit No. PAO-11 was received  
16 into evidence.)

16 ALJ HYMES: Ms. Meiers-De Pastino?

17 MS. MEIERS-DE PASTINO: Thank you, your  
18 Honor. I would like to move into evidence  
19 IOU-07 and IOU-08.

20 ALJ HYMES: Thank you.

21 Are there any objections to  
22 receiving IOU-07 and IOU-08 into the record?

23 (No response.)

24 ALJ HYMES: Hearing no objections,  
25 IOU-07 and IOU-08 are received into the  
26 record.

27 (Exhibit No. IOU-07 was received  
28 into evidence.)



1                   (Exhibit No. IOU-08 was received  
2                   into evidence.)

3                   ALJ HYMES: Are there any other  
4                   questions or concerns for today to address  
5                   today? Please raise your hands.

6                   (No response.)

7                   ALJ HYMES: All right. I see no hands  
8                   raised, so we will end early today.

9                   We are adjourned until 10:00 a.m.  
10                  tomorrow morning. Naturally, all parties  
11                  should be -- all participating parties should  
12                  be present at 9:30. With that, we are  
13                  adjourned. And we'll be off the record.

14                  (Whereupon, at the hour of 4:40 p.m.  
15                  this matter having been continued to  
16                  10:00 a.m., August 4, 2021, the  
                  Commission then adjourned.)

17                               \*   \*   \*   \*   \*]  
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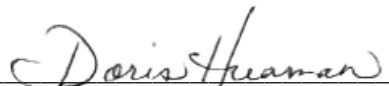
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