

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF CALIFORNIA



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ADMINISTRATIVE LAW JUDGE KELLY A. HYMES, presiding

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

REPORTERS' TRANSCRIPT  
Virtual Proceeding  
August 6, 2021  
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## 1 VIRTUAL PROCEEDING

2 AUGUST 6, 2021 - 10:04 A.M.

3 \* \* \* \* \*

4 ADMINISTRATIVE LAW JUDGE HYMES: We'll  
5 be on the record.6 Good morning, everyone. This is the  
7 time and place for the continuation of the  
8 evidentiary hearing for Rulemaking 20-08-020,  
9 the Order Instituting Rulemaking to Review  
10 Net Energy Metering Tariffs Pursuant to  
11 Decision 16-01-044 and to Address Other  
12 Issues Related to Net Energy Metering. This  
13 evidentiary hearing is being held virtually  
14 through the use of the Webex -- Webex  
15 platform, as well as a telephone conference  
16 line.17 I am Kelly Hymes, the assigned  
18 administrative law judge to this proceeding.  
19 The assigned commissioner is Commissioner  
20 Martha Guzman Aceves.21 Before we begin today, I want to  
22 once again review ground rules necessary, due  
23 to the nature of a virtual evidentiary  
24 hearing.25 This evidentiary hearing is on the  
26 record, and a court reporter is transcribing  
27 the discussion for the official transcript.  
28 As such, the court reporter will interrupt a



1 speaker, when possible to do so without  
2 disruption, when there is or are inaudible  
3 statements or portions thereof. When  
4 disruption is not possible, the reporter will  
5 insert the word "inaudible" in the transcript  
6 when there is dropped, garbled or otherwise  
7 indecipherable audio. I recognize that  
8 neither of these conditions are optimal, so  
9 to limit these conditions and ensure everyone  
10 is heard and the court reporter accurately  
11 transcribes statements made today during the  
12 evidentiary hearing, participants shall  
13 adhere to the following rules:

14 All attendees must mute their  
15 telephone line when not speaking.  
16 Participants should speak only when addressed  
17 by me. Speakers must identify themselves  
18 before speaking each time; however, during  
19 the course of direct and cross-examination of  
20 a witness, it is not necessary for the  
21 questioning attorney or the witness to  
22 restate their name each time. Speakers must  
23 have both audio and video activated, because  
24 you need to be visual by me when testifying  
25 and asking questions. Only me and parties  
26 expected to speak during a particular portion  
27 of the hearing should have their cameras on.  
28 Speakers must speak slowly, clearly and one

1 at a time, and speakers should pause between  
2 statements, especially during the question  
3 and answer examination time. If anyone is  
4 speaking, you must not interrupt. If you  
5 wish to -- to speak, please raise your hand  
6 using the raised hand button on the chat, and  
7 speak when I call your name, unless, of  
8 course, you are making an objection to a  
9 question during the course of examination; in  
10 such instances, the attorney may orally  
11 interject to provide his or her name, and  
12 then briefly state the objection. Crosstalk  
13 must always be avoided. If there is any  
14 crosstalk, the court reporter may insert the  
15 words "crosstalk" in -- in the transcript.

16 Prior to going on the record this  
17 morning, parties provided cross-examination  
18 exhibits to be identified and marked for the  
19 record. Those exhibits are:

20 CSA-29. This is a cross exhibit for  
21 Witness Chhabra, and it is entitled "NRDC  
22 Blog Post, "Rooftop Solar in California is  
23 Ready to Take the Next Step," and this is  
24 dated March 16th, 2021.

25 (Exhibit No. CSA-29 was marked for  
26 identification.)

27 ALJ HYMES: Next is CSA-30, also a  
28 cross exhibit, entitled "NRDC Response to

1 CALSSA Data Request 7.04."

2 (Exhibit No. CSA-30 was marked for  
3 identification.)

4 ALJ HYMES: Next, CSA-31, cross exhibit  
5 entitled "Screenshot from NRDC's Data  
6 Template for Cost-Effectiveness Model."

7 (Exhibit No. CSA-31 was marked for  
8 identification.)

9 ALJ HYMES: CSA-32, also a cross  
10 exhibit entitled "Pages from Updated  
11 Cost-Effectiveness of NEM," N-E-M, "Successor  
12 Rate Proposals," dated 6-15, 2021.

13 (Exhibit No. CSA-32 was marked for  
14 identification.)

15 ALJ HYMES: And then finally for CALSSA  
16 is CSA-34. This is an impeachment exhibit  
17 entitled "NRDC Response to CALSSA Data  
18 Request 5.02."

19 (Exhibit No. CSA-34 was marked for  
20 identification.)

21 ALJ HYMES: And then our last exhibit  
22 for today is IOU-14. This is a cross exhibit  
23 entitled "Sum of ACC Values Used in CCSA  
24 Proposed Peak Rate."

25 (Exhibit No. IOU-14 was marked for  
26 identification.)

27 ALJ HYMES: And let me just  
28 double-check. Do we have any other exhibits

1 to be identified or marked for the record  
2 today? Please raise your hand.

3 (No response.)

4 ALJ HYMES: Okay. Seeing no hands  
5 raised, let's move on.

6 Our schedule for today will begin  
7 with a few additional questions from me for  
8 Witness Chait from TURN. Then we will  
9 proceed with cross-examination of the  
10 following witnesses: Witness Power --  
11 Powers, excuse me, from Protect Our  
12 Communities Foundation, Witnesses Fulmer and  
13 Smithwood from Coalition for Community Solar  
14 Access, Witnesses Chernick and will --  
15 Wilson, which is a panel, from Small Business  
16 Utilities Advocates, and then Witness Chhabra  
17 from Natural Resources Defense Council.

18 And I just want to remind Witness  
19 Chait that she remains under oath from  
20 yesterday.

21 However, the other witnesses for  
22 today have not stated whether they agree to  
23 the witness attestation for this virtual  
24 evidentiary hearing, so I want to bring them  
25 all together this morning, and have them walk  
26 through the list of attestations, and then  
27 state whether they agree as such.

28 So let's go off the record to bring

1 up all of our witnesses.

2 (Off the record.)

3 ALJ HYMES: We'll be back on the  
4 record.

5 So everyone, please raise your right  
6 hand. Do you solemnly state under penalty of  
7 perjury that the testimony you give in the  
8 case now pending before the Commission shall  
9 be the truth, the whole truth, and nothing  
10 but the truth, do you attest that you will  
11 testify based on your own knowledge and  
12 memory, free from external influences or  
13 pressure, attest that you will adhere to all  
14 formal requirements of testifying under oath,  
15 including the prohibition against being  
16 coached, attest that you will only refer to  
17 materials provided by the parties, exhibits  
18 premarked and identified by the parties and  
19 previously shared with the opposing party,  
20 attest that you will not make any recording  
21 of the proceeding, and attest that you  
22 understand that any recording of a proceeding  
23 held by Webex, including screenshots or other  
24 visual copying of a hearing, is absolutely  
25 prohibited, attest to understand that  
26 violation of these prohibitions may result in  
27 sanctions, including removal from the  
28 evidentiary hearing, restricted entry to

1 future hearings, denial of entry to future  
2 hearings, or any other sanctions deemed  
3 necessary by the Commission, attest you will  
4 not engage in any private communication,  
5 either by phone, text, email or other modes  
6 of communication, while under oath and being  
7 examined, and then finally, attest that if  
8 you experience any attempts to tamper with  
9 your witness testimony, you will report the  
10 occurrence to me immediately?

11           Witness Powers, do you agree to  
12 these attestations?

13           WITNESS POWERS: I do.

14           BILL POWERS, called as a witness by  
15 Protect Our Communities Foundation,  
16 having attested, testified as follows:

17           ALJ HYMES: Witness Fulmer, do you  
18 agree to these attestations?

19           WITNESS FULMER: Yes, I do.

20           MARK FULMER, called as a witness by  
21 Coalition for Community Solar Access,  
22 having attested, testified as follows:

23           ALJ HYMES: Witness Smithwood, do you  
24 agree to these attestations?

25           WITNESS SMITHWOOD: Yes, I do, your  
26 Honor.

27           BRANDON SMITHWOOD, called as a  
28 witness by Coalition for Community  
Solar Access, having attested,  
testified as follows:

          ALJ HYMES: Witness Chernick, do you

1 agree to these this attestations?

2 WITNESS CHERNICK: Yes, I do.

3 PAUL CHERNICK, called as a witness  
4 by Small Business Utility Advocates,  
having attested, testified as follows:

5 ALJ HYMES: And may I please have  
6 Witnesses Wilson and Chhabra on the screen?

7 Witness Wilson, do you agree to  
8 these attestations?

9 WITNESS WILSON: I do.

10 JOHN WILSON, called as a witness by  
11 Small Business Utility Advocates,  
having attested, testified as follows:

12 ALJ HYMES: And Witness Chhabra, do you  
13 agree to these attestations?

14 WITNESS CHHABRA: I do, your Honor.

15 MOHIT CHHABRA, called as a witness  
16 by Natural Resources Defense Council,  
having attested, testified as follows:

17 ALJ HYMES: Okay. Thank you, all.

18 Let's go off the record.

19 (Off the record.)

20 ALJ HYMES: Let's go back on the  
21 record.

22 MICHELE CHAIT, having previously  
23 attested, testified as follows:

24 EXAMINATION

25 BY ALJ HYMES:

26 Q Again, welcome back. I have a few  
27 questions for you. Thank you again for  
28 coming back this morning. I want to remind

1     you, once again, that you remain under oath.

2             A     Yes.

3             Q     So my first question -- and again,  
4     this is to help me understand better as well  
5     as to complete the record a little bit better  
6     for your testimony.

7                     So the first question is about  
8     export compensation prices, and I wanted to  
9     ask you, as the representative for TURN, if  
10    you can tell me what you believe are the  
11    benefits or the issues associated with using  
12    the avoided cost calculator to set export  
13    compensation rates?

14            A     I think that the benefits are that  
15    the compensation for exports would be better  
16    aligned with avoided cost, and in that way,  
17    the cost shift associated with exports is  
18    eliminated. I think that the issues  
19    regarding compensation based on avoided costs  
20    are focused around implementation, and I  
21    think the question there is what level of  
22    granularity should be -- avoided cost be  
23    bucketed into, and in my opinion, in the  
24    near-term, it would make sense for avoided  
25    cost to be summed into a -- TOU period prices  
26    that would reflect the TOU periods of the  
27    underlying rates, and as the IOUs develop the  
28    capabilities to implement more granular



1 pricing, I think that more granular avoided  
2 cost compensation could be implemented.

3 The one thing that I think should  
4 be carefully implemented is to make sure that  
5 avoided costs are not weighted for any  
6 particular behind-the-meter technology. They  
7 should be technology agnostic.

8 And I think, lastly, on this point,  
9 my expectation is that the 2020 avoided cost  
10 values were anomalous, and I come to that  
11 conclusion, because I've personally seen a  
12 wide variety of studies projecting system  
13 costs under high penetrations of renewables,  
14 and the 2020 market values were materially  
15 out of line with those. I'm not saying I  
16 don't think the avoided costs will change  
17 over time; but, I think that the changes are  
18 likely to be less material than what we saw  
19 between 2020 and 2021. ]

20 Q As a follow-up, you talk about the  
21 granularity and that we should be looking at  
22 this on a very granular level. How granular?

23 A Well, the avoided costs are  
24 presented on an hourly basis. I expect that  
25 that would be the most granular level that  
26 you could reasonably achieve and that could  
27 be reasonably implemented in billing systems.  
28 I think that in the near term for residential

1 customers, that's not a reasonably achievable  
2 goal, which was why I was thinking that  
3 bucketing the prices into TOU periods would  
4 be an appropriate way of pricing with avoided  
5 costs and giving customers price signals that  
6 they can easily respond to and that are  
7 capable of being implemented in the utility  
8 billing systems.

9 Q Great. Thank you.

10 A You're welcome.

11 Q So let's say the Commission decided  
12 that we should not use avoided cost values to  
13 set export compensation rates, what other  
14 methods would be possible?

15 A In this proceeding, I believe that  
16 the other alternative is a share of retail  
17 rates. The issues associated with that  
18 center around the retail rate structure and  
19 also retail rate escalation. Over a long  
20 time, there could be a material mismatch  
21 between the escalation in retail rates and  
22 the avoided costs, and that is what drives  
23 the cost shift.

24 Q Okay. Thank you.

25 A You're welcome.

26 Q So I want to refer you to TRN-01,  
27 and this is your direct testimony on pages 45  
28 to 46.

1           A     I'm there.

2           Q     I don't have the exact line, but  
3 here you wrote that TURN proposes to use a  
4 single average hourly value in each IOU  
5 service territory for components that vary by  
6 climate zone in the ACC model.

7           A     Yes.

8           Q     And I'm wondering if TURN has  
9 established how the single average hourly  
10 value should be chosen.

11          A     The issue here is that in the ACC  
12 model, distribution costs, the avoided  
13 distribution costs, vary by climate zone. I  
14 believe that this would be difficult to  
15 implement if you were going to try to group  
16 customers into climate zones and apply the  
17 avoided cost calculator across the multiple  
18 climate zones that are models. So I think it  
19 would be as simple as averaging the  
20 distribution avoided costs in the avoided  
21 cost calculator for each year.

22          Q     Okay. So sticking with Exhibit  
23 TRN-01, I want to talk about storage and  
24 integrating DERs. On page 57 --

25          A     Okay.

26          Q     -- here TURN proposes requiring  
27 paired storage units to discharge to a  
28 predetermined minimum capacity level during a

1 Stage 2 emergency or extreme summer net  
2 peaks. I'm just wondering if any population  
3 should be exempt from this requirement?

4 A Certainly we've already identified  
5 medical baseline customers as a population  
6 that should be exempt from this requirement.  
7 For other types of customers, it's reasonable  
8 to allow them to select the maximum discharge  
9 level during these types of events and to set  
10 the compensation provided for those services  
11 based on the amount of service that they're  
12 applying to the grid.

13 I think that that could be done in  
14 two ways. One, it could be based on the  
15 up-front incentive level that those customers  
16 receive or it could be through a separate  
17 annual type of payment compensation.

18 Q Okay. And then my final question  
19 is, looking at your attachments, so  
20 TURN-02 -- and this is Attachment C, so  
21 page 105 -- it's actually 105 of the PDF.  
22 It's a little bit easier to find that way.

23 A This is the attachment to my direct  
24 testimony?

25 Q I'm sorry, TRN-02.

26 A One moment while I get that up.  
27 Okay. I have that up.

28 Q So I'm looking at page -- it's

1 page 6 or page 105 and there's a table here.  
2 The table contrasts TURN's tariff proposal  
3 with the E3 White Paper. Here you state that  
4 E3 did not analyze a minimum bill structure.  
5 My understanding is -- let me ask you. Did  
6 you analyze a minimum bill structure?

7 A TURN did not, no.

8 Q Can you explain why you don't  
9 propose an increased minimum bill instead or  
10 in addition to the Grid Access charge?

11 A TURN proposes a unique mechanism  
12 through the NUS charge. That mechanism  
13 charges customers for the nonbypassable and  
14 avoidable and shared costs based on their  
15 actual monthly self-consumption. So I think  
16 that that's a more accurate method of  
17 assessing the cost responsibility associated  
18 with self-consumption.

19 Q Okay. So you chose that one  
20 because it's more accurate?

21 A Yes, your Honor.

22 Q Okay. That is all the questions I  
23 have for you. Thank you.

24 ALJ HYMES: Mr. Freedman, did you have  
25 any redirect?

26 MR. FREEDMAN: Just one follow-up, your  
27 Honor.

28 ///

1 REDIRECT EXAMINATION

2 BY MR. FREEDMAN:

3 Q Ms. Chait, you were asked about the  
4 advantages or disadvantages of using the  
5 avoided cost calculator for export  
6 compensation?

7 A Yes.

8 Q I'm wondering about your views with  
9 respect to what other values could be  
10 incorporated into the avoided cost calculator  
11 to reflect some of the concerns raised by  
12 parties in this proceeding?

13 A In my view, the cost values that  
14 are included in the avoided cost calculator  
15 are accurate with respect to the costs that  
16 the utilities actually avoid and that would  
17 go into rates. Without having a better  
18 understanding of what some of the proposed  
19 values are, I'm not sure I can well opine on  
20 that. But I do firmly believe that whatever  
21 values are included in the avoided cost  
22 calculator should be the same values that  
23 would go into utility ratemaking because that  
24 needs to be a cohesive suite of figures.

25 Q Okay. Thank you very much,  
26 Ms. Chait.

27 That's all, your Honor.

28 ALJ HYMES: Thank you.

1 Ms. Chait, you are dismissed.

2 THE WITNESS: Thank you, your Honor.

3 ALJ HYMES: Let's go off the record.

4 (Off the record.) ]

5 ALJ HYMES: We'll be back on the  
6 record.

7 Ms. Folk, please proceed.

8 BILL POWERS, called as a witness by  
9 Protect Our Communities Foundation,  
10 having previously been sworn, testified  
11 as follows:

12 DIRECT EXAMINATION

13 BY MS. FOLK:

14 Q Thank you, your Honor. Ellison  
15 Folk for Protect our Communities Foundation.

16 And, Mr. Powers, can you state your  
17 name for the record?

18 A William E. Powers.

19 Q And does the testimony in PCF  
20 Exhibits-024 and 025 represent your testimony  
21 in this proceeding?

22 A It does.

23 Q And was this testimony prepared by  
24 you or under your supervision?

25 A Yes.

26 Q And in addition to PCF-24 and  
27 PCF-25, did you directly prepare Exhibits  
28 PCF-33 and PCF-64?

A I did.

1           Q    And are Exhibits PCF-26 through  
2 Exhibit PCF-66 documents that you cite in  
3 your testimony?

4           A    Yes.

5           Q    And is your testimony true and  
6 correct to the best of your knowledge?

7           A    It is.

8           Q    And does it represent your best  
9 professional judgement?

10          A    It does.

11          Q    And do you have any additions or  
12 corrections to your testimony today?

13          A    No.

14          MS. FOLK: Mr. Powers is available for  
15 questioning.

16          ALJ HYMES: Thank you.

17                Mr. Freedman, you may proceed.

18                   CROSS-EXAMINATION

19 BY MR. FREEDMAN:

20          Q    Thank you. Good morning,  
21 Mr. Powers.

22          A    Good morning, Mr. Freedman.

23          Q    I'd like to start by turning to  
24 page 21 of your testimony where you discuss  
25 avoided transmission costs for PG&E  
26 associated with NEM solar systems. Let me  
27 know when you're there.

28          A    I am there.



1           Q    So right above the table marked as  
2   Table 4, you state:

3                   Each NEM solar system installed in  
4                   PG&E's territory in the 2015 to  
5                   2017 period avoided approximately  
6                   \$620 per year in new transmission  
7                   costs.

8                   Do you see that?

9           A    I do.

10          Q    Are you asking the Commission to  
11   adopt this calculation of avoided  
12   transmission cost values for NEM systems in  
13   this proceeding?

14          A    I am asking the Commission to adopt  
15   a credit for those NEM systems that  
16   contribute to eliminating transmission.

17          Q    And is that the value you're asking  
18   the Commission to adopt, or are you asking  
19   for a different value to be applied?

20          A    That's an example of a value  
21   calculated for that specific situation. That  
22   is not necessarily the value that would be  
23   applied universally. This is the information  
24   that was available for this period in this  
25   service territory.

26          Q    Do you have a specific value you're  
27   proposing going forward?

28          A    In lieu of other data, this would

1 be it. But additional data would allow  
2 refinement of that value.

3 Q And are you proposing that this  
4 value be provided as a credit to customers or  
5 be used for some other purpose?

6 A I propose that it inform the  
7 Commission's decision on whether there exists  
8 a cost shift or not with NEM with the NEM 2  
9 tariff.

10 Q And how would it inform the  
11 Commission's determination of a NEM 3 tariff  
12 structure?

13 A For example if currently using the  
14 cost of service cost shift was in the NEM 2  
15 report, which is showing a cost shift of  
16 approximately \$618 million for residential  
17 NEM, this would be a credit to that to  
18 determine whether there is any reason to  
19 adjust the NEM 2 tariff going forward.

20 Q Do you believe a similar credit  
21 value should be assumed for customers that  
22 install energy efficiency in PG&E's service  
23 territory?

24 A I have not considered that issue.

25 Q Would you consider applying the  
26 same credit value to other types of  
27 distributed energy resources in PG&E's  
28 service territory?

1           A     I'd consider it.

2           Q     Do you believe the value should be  
3 assumed to be the same regardless of where a  
4 NEM solar system is deployed within PG&E's  
5 service territory?

6           A     Yes.

7           Q     So the mix of systems  
8 geographically in your view is not relevant  
9 to the determination of the value?

10          A     At this point in time, there are  
11 hundreds of thousands of systems dispersed  
12 through PG&E's territory. I think parsing  
13 the relative concentration of NEM systems  
14 would be a challenging task. These are now  
15 universally distributed throughout the  
16 system.

17          Q     Is it your view that the same value  
18 would apply to a similarly sized solar system  
19 that is connected in front of the customer  
20 meter rather than behind it?

21          A     So is the question in terms of the  
22 value to the system in reducing or  
23 eliminating transmission and distribution?

24          Q     Yes.

25          A     If you had an in-front-of-the-meter  
26 solar system at home or at a business, it's  
27 impact on the system would be similar.

28          Q     Okay. Thank you. I'd like you to

1 turn to page 28. And at the bottom of that  
2 page carrying over into the top of page 29,  
3 you discuss accurately quantifying  
4 distribution avoided costs. And specifically  
5 you discuss the possibility of saturation  
6 deployment of customer-sided solar and  
7 storage in extreme high fire-threat  
8 districts. Do you see that?

9 A I do.

10 Q And you state that:

11 That kind of extreme saturation  
12 has the potential to save IOU  
13 customers a substantial portion of  
14 the nearly \$40 billion that the  
15 PUC forecasts will be spent by the  
16 IOUs on hardening the existing T&D  
17 system in extreme high fire-threat  
18 districts in the 2020 to 2030  
19 period.

20 You specifically suggest -- well, in  
21 that last sentence that I read, there's a  
22 footnote 99, and it cites to what I believe  
23 is a Commission staff White Paper; is that  
24 right?

25 A Footnote 99 I have saying, "See  
26 footnote 98." Correct.

27 Q Does the White Paper that you're  
28 citing specifically endorse the assertion

1     that customer-sided solar and storage  
2     deployed in extreme fire -- high fire-threat  
3     districts could save a substantial portion of  
4     the forecasted expenditures?

5             A     That White Paper doesn't address  
6     that.

7             Q     Are you asking the Commission to  
8     find in this proceeding that the proposed  
9     expenditures by the utilities that you  
10    mentioned here are unreasonable or excessive?

11            A     It would be wonderful if the  
12    Commission found that. But I'm not  
13    anticipating that they would do that in this  
14    particular proceeding.

15            Q     In the next sentence after the one  
16    that I've pointed you to, you state that:

17                   Assuming only half of the proposed  
18                   \$40 billion is avoided by  
19                   saturation deployment of NEM solar  
20                   and batteries in the extreme  
21                   high-fire threat districts, the  
22                   annual avoided T&D hardening costs  
23                   would be on the order of \$2  
24                   billion per year.

25                   Is your method for calculating that  
26    shown in footnote 100?

27            A     It is.

28            Q     And are you asking the Commission

1 to incorporate your proposed savings estimate  
2 as part of its consideration of the successor  
3 tariff proposals?

4 A I am in broad strokes.

5 Q So are you asking for this value to  
6 be applied -- to be assumed for all NEM solar  
7 systems that might be deployed going forward?

8 A What I'm suggesting is, one, this  
9 is a conservative estimate; but, two, the  
10 incredible value of saturation deployment of  
11 solar and batteries to allow the utilities to  
12 as they need to conduct Public Safety Power  
13 Shutoffs is on the order of in some areas  
14 \$200 to \$300 to \$400,000 a mile. And that  
15 that cost should be credited to NEM customers  
16 based throughout the state even though the  
17 NEM systems that are actually generating that  
18 tremendous savings by eliminating T&D fire  
19 hardening are actually in a reduced segment  
20 of that NEM customer base.

21 But they are part of that base.  
22 And by doing that saturated -- saturation  
23 deployment to avoid these costs, that should  
24 accrue to all NEM customers in California.  
25 But it's being generated by that subcategory  
26 who are in those extreme higher fire-threat  
27 districts.

28 Q What do you mean by saturation

1 deployment?

2           A     Let's take SDG&E as a example.  
3 SDG&E has just over 30,000 customers in the  
4 extreme Tier 3 high fire-threat district.  
5 Saturation deployment means that every meter  
6 -- all 30,000 of those meters -- is equipped  
7 with solar or storage if it is possible to  
8 put it in such that if the utility initiates  
9 a Public Safety Power Shutoff, that those  
10 customers don't even know it has happened.

11                     And the -- because those systems  
12 kick in -- or those batteries do, and the  
13 utility instead of spending tens of -- or the  
14 utilities collectively -- instead of spending  
15 tens of billions of dollars of frankly wasted  
16 money on covered conductors, undergrounding,  
17 wood-to-steel poles, instead of wasting  
18 billions on those practices, they equip their  
19 customers or those customers are equipped to  
20 allow them to use the existing system in  
21 largely its existing condition, and have it  
22 shutoff when it needs to be shut off to  
23 protect the rest of California and that area  
24 from fire.

25           Q     Have you outlined a specific  
26 proposal in your testimony for implementing  
27 this type of saturation deployment?

28           A     I have.

1 Q Where is it?

2 A A couple of pages further on. The  
3 way to do this is to mandate tariff on-bill  
4 financing that the utilities would make  
5 available to their customers. Many customers  
6 that live in the back country are of limited  
7 means, LMI customers, and have very limited  
8 access to capital to do something of this  
9 type.

10 If there is a tariff on-bill  
11 financing program with plenty of private  
12 capital available to assure that it is  
13 sufficiently financed, that would be the  
14 tool.

15 Another element of this would be  
16 the same -- though I don't mention it in this  
17 testimony -- is just that the IOUs deployed  
18 their TOU rates which was opt-out. That same  
19 approach can be used for customers in  
20 targeted areas like these high fire-threat  
21 districts to assure that you get saturation  
22 deployment at a fast pace.

23 Q Have you estimated the cost of this  
24 saturation deployment proposal that you've  
25 described?

26 A The cost rounding off would be  
27 zero.

28 Q And that's a net cost you're



1 assuming? Not an actual upfront cost that  
2 would be incurred by the utilities?

3 A No. I see minimal to no upfront  
4 cost to the utilities other than setting up a  
5 dynamic tariff on-bill program and utilizing  
6 their ability to initiate opt-out programs.  
7 Those are -- that's administrative action.  
8 The customers themselves would be financing  
9 these projects.

10 There'd be no rate-based component  
11 to the cost. The issue for the utilities  
12 would be the administration of the program.

13 Q So it would be your expectation  
14 that with these elements in place, all the  
15 customers in the relevant areas would choose  
16 to adopt solar plus storage?

17 A Yes. And that with an opt-out  
18 program and the financing available to cost  
19 them no more than -- depending on the design  
20 of the program less than they currently pay.

21 What we've seen with opt-out rates  
22 in California, especially for the community  
23 choice aggregators. I have not checked the  
24 opt-out rates for the utilities' TOU rollout.  
25 But it's in the high 90 percent, 96, 97,  
26 98 percent of the customers.

27 For those remaining customers,  
28 they'll have to be dealt with at some point.

1 But these opt-out programs have shown  
2 extremely high participation rates. ]

3 Q How would you address the problem  
4 associated with what are called split  
5 incentives for rental properties, where the  
6 tenant pays the bill, but the landlord owns  
7 the property, and must make up-front  
8 investments, like the ones you're talking  
9 about?

10 A Well, that's why I'm talking about  
11 a tariffed on-bill financing program, the  
12 tariffed on-bill format, which is tied to the  
13 meter, not tied to the owner, not tied to the  
14 renter. The whole point behind tariffed  
15 on-bill financing is to open up the renter  
16 market to deployment of solar and batteries  
17 just as easily as you could do it with the  
18 white well-to-do customer that is featured in  
19 some of the testimony of the parties here.

20 Q Do you believe that renters  
21 generally have the right to install solar and  
22 storage systems on the property owned by  
23 their landlord?

24 A No, but it's not a renter decision.  
25 The -- the property is owned by the owner.  
26 The owner could potentially -- could  
27 potentially block the deployment. But, the  
28 fact that it's being paid by the meter,

1     there's no additional imposition of cost on  
2     the owner or the renter, would present a  
3     situation where it would be unexpected,  
4     unusual, for the owner to block that,  
5     especially when we're talking about extreme  
6     higher fire-threat district. The owner  
7     probably has an interest in maintaining that  
8     property standing, and would have a -- a  
9     strong interest in any action that would  
10    minimize the exposure of that property of  
11    fire.

12           Q     Are you asking the Commission to  
13    adopt a comprehensive program like the one  
14    you're describing here in this proceeding?

15           A     Well, not in this proceeding.  
16    We're also in the -- the wildfire mitigation  
17    proceedings, and have been for years.  
18    Protect Our Communities has been adamant that  
19    this is the right approach to both protecting  
20    the customers in these extreme high  
21    fire-threat areas and not wasting billions of  
22    dollars on techniques that are not going to  
23    solve the problem. So I'm not suggesting  
24    that we solve it in the net metering 3.0  
25    proceeding. We are in the appropriate  
26    proceedings, and we are making our voice  
27    heard there.

28           Q     Would you agree that any savings

1 that are assumed to occur due to the  
2 saturated deployments you're describing  
3 should be used to reduce the level of any  
4 spending authorized by the Commission or  
5 utility wildfire mitigation efforts?

6 A Could you repeat that question?

7 Q Would you agree that any savings  
8 assumed to be achieved through the saturated  
9 deployment of solar and storage in high  
10 fire-threat districts should be used to  
11 reduce the level of spending authorized by  
12 the Commission for utility wildfire  
13 mitigation efforts?

14 A Of course, that the -- the -- my  
15 perspective is that if the Commission were to  
16 adopt this approach, and insist -- and by the  
17 way, in -- in the San Diego back country,  
18 30,000 customers in extreme high fire-threat  
19 districts, back-of-the-envelope guess, I  
20 would guess that at least six to 8000 of  
21 those meters already have solar, and many of  
22 them have storage. So this isn't a -- a --  
23 a -- a light switch going off and on. This  
24 is -- they know that battery and storage will  
25 protect them, if those -- a public -- safety  
26 power shutoffs occur. So this is happening,  
27 that -- the issue is not is it happening; is  
28 it can the Commission channel this into a

1 coherent effort where, of course, if we are  
2 proposing to spend \$40 billion this decade on  
3 fire hardening, and this approach would  
4 largely eliminate the need to cover  
5 conductors, underground, wood to steel poles,  
6 and very definitely, the point of doing it  
7 would be for the Commission to role back all  
8 of that spending on infrastructure upgrades.

9 Q If the Commission were to authorize  
10 a program of -- well, if a saturated solar  
11 and storage deployment effort ended up not  
12 having any impact on the amount of wildfire  
13 mitigation expenditures approved by the  
14 Commission for the utilities to spend, should  
15 the savings you estimate still be assumed?

16 MS. FOLK: I'm going to object that  
17 these questions are asking him to speculate  
18 about future events, and getting beyond the  
19 scope of his testimony.

20 MR. FREEDMAN: Your Honor, this is the  
21 core of Mr. Powers' testimony. This is what  
22 he spends most of his testimony arguing for.  
23 I think it's fair to ask what happens under  
24 different scenarios.

25 ALJ HYMES: I'll allow the questioning.

26 THE WITNESS: Could you repeat the  
27 question?

28 ///

1 BY MR. FREEDMAN:

2 Q Sure. If -- if a program of  
3 saturated solar and storage deployment in  
4 extreme high fire-threat districts ends up  
5 having no impact on the amount of wildfire  
6 mitigation spending authorized by the  
7 Commission that the utilities are allowed to  
8 spend, do you think it would still be  
9 reasonable to assume the savings that you  
10 quantify in your testimony?

11 A I don't agree with the  
12 hypothetical. The only reason for the  
13 Commission to authorize saturated deployment  
14 of solar and batteries would be to eliminate  
15 large parts of the projected spending  
16 authorization for the more conventional fire  
17 hardening program. They -- you wouldn't --  
18 you wouldn't do them both.

19 Q So are you basically saying the  
20 Commission should only approve a saturation  
21 program like you describe if it were to -- to  
22 result in a direct reduction in wildfire  
23 mitigation spending by the utilities?

24 A The -- please repeat the question.

25 Q So are you saying the Commission  
26 should only approve a program of saturated  
27 solar and storage deployment, as described in  
28 your testimony, if it results in a direct

1 reduction to the amount of spending by the  
2 utilities on wildfire mitigation activities?

3 A Yes.

4 Q Okay. Thank you. On page 32 of  
5 your testimony, you discuss an E3 technical  
6 analysis that was performed, I believe, in  
7 2009. Is that right?

8 A Correct.

9 Q And the sentence -- the first  
10 sentence in this section describes E3's  
11 analysis as a fine -- as providing a finding  
12 that distributed solar generation is  
13 comparable in cost to remote new  
14 transmission-dependent utility-scale solar.  
15 Do you see that?

16 A I do.

17 Q And that's -- that analysis looked  
18 simply at the deployed costs of the resource.  
19 Is that right?

20 A What do you mean by that?

21 Q Did that analysis consider tariff  
22 treatment for distributed resources, or did  
23 it simply look at the levelized cost of  
24 capital and operating expenses for the  
25 various options?

26 A It was limited to capital and  
27 operating cost.

28 Q Okay. On page 33, at the bottom of

1     that page, you have a paragraph that begins  
2     "The cost-competitiveness of the High DG Case  
3     was accurate in 2009," and states: "SCE  
4     filed an application to build 250 megawatts  
5     of IOU-owned solar on industrial warehouse  
6     rooftops in March of 2008 at an installed  
7     cost of 3.50 per watt." Do you see that?

8             A     I do.

9             Q     Did Edison's approach provide  
10     retail rate credits for customers hosting  
11     these systems or were the systems connected  
12     in front of the customer meter?

13            A     These systems were in front of the  
14     customer meter.

15            Q     And the customers hosting those  
16     projects received lease payments for the use  
17     of their facility. Is that right?

18            A     That is correct.

19            Q     Okay. And then finally, just to  
20     circle back to the on-bill financing concept  
21     that you discuss on pages 43 to 44 and we  
22     were -- you and I were talking about just a  
23     minute ago, in a situation where a property  
24     is a rental property, are you -- what would  
25     happen -- are you suggesting that the assets  
26     would be owned by the renter or by the  
27     landlord?

28            A     The assets would be attached to the



1 meter. So the owner of the -- of the  
2 building would be the ultimate beneficiary,  
3 the owner of the -- that hardware.

4 Q And the owner of the building would  
5 also be responsible for payback of the  
6 on-bill financing costs, if the renter were  
7 to vacate the property. Is that right?

8 A True. But, on programs that are  
9 actually in operation, like the Hawaii GEMS  
10 program, they have assumed that either one  
11 month or 6 weeks of every year a property  
12 would not be occupied, and so it -- the rates  
13 assume a certain amount of time when the  
14 property is not occupied. But, I want to  
15 underscore here that whether the property is  
16 occupied or not, that solar power is getting  
17 produced, and either used on-site, if no  
18 one's in it, it's being sent to the grid, the  
19 battery storage unit is fully operational,  
20 can be dispatched, as needed, to support that  
21 facility. So it's not as though it's a dead  
22 asset when no one is in the structure.

23 Q Okay. Great. Thank you,  
24 Mr. Powers. Those are all my questions.

25 A Thank you.

26 ALJ HYMES: Any redirect?

27 MS. FOLK: May I have just a minute  
28 with my client?

1 ALJ HYMES: Yes. We'll be off the  
2 record.

3 (Off the record.)

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

6 And again, Ms. Folk.

7 MS. FOLK: We have no redirect.

8 ALJ HYMES: Okay. Thank you very much.

9 And Mr. Powers, you are -- you are  
10 excused. Thank you very much.

11 THE WITNESS: Thank you, your Honor.

12 ALJ HYMES: And let's go off the  
13 record.

14 (Off the record.)

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

17 MR. WEIDMAN: Thank you, your Honor.

18 MARK FULMER, having previously  
19 attested, testified as follows:

20 DIRECT EXAMINATION

21 BY MR. WEIDMAN:

22 Q Good morning, Mark. Could you  
23 please spell -- state and spell your name for  
24 the record, please?

25 A There; making sure I'm off mute.

26 My name is Mark Fulmer, M-a-r-k  
27 F-u-l-m-e-r.

28 Q And what exhibits are you

1 sponsoring in this proceeding?

2 A I am sponsoring my direct and  
3 rebuttal testimonies. They have been labeled  
4 CCS-02 and CCS-04.

5 Q And were these exhibits prepared by  
6 you or under your direction?

7 A Yes, they were.

8 Q Do you have any changes,  
9 corrections, or additions to your testimony  
10 today?

11 A I'd like to point out that in my  
12 opening testimony, there are a few instances  
13 where I refer to the CCSA proposal as the net  
14 billing compensation tariff. Those, of  
15 course, should be the net value compensation  
16 tariff. I believe it was clear in context  
17 what I was talking about, but I wanted to  
18 make that clear.

19 Your Honor, I can point out the  
20 specific instances, if you'd like.

21 THE REPORTER: Your Honor, this is the  
22 reporter. You are on mute.

23 ALJ HYMES: I just realized that.

24 Please, for the record.

25 THE WITNESS: Yes. These are in  
26 Exhibit CCS-02, page 6, line 2, page 7,  
27 line 4, and page line -- page 9, lines 15 and  
28 20.

1 BY MR. WEIDMAN:

2 Q Thank you. Are the facts contained  
3 in your testimony true and correct, to the  
4 best of your knowledge?

5 A Yes, they are.

6 Q And are the opinions expressed in  
7 your testimony based upon your best  
8 professional judgment?

9 A Yes, they are.

10 Q And if you are asked these  
11 questions today, would your answers remain  
12 the same?

13 A Yes, they would.

14 MR. WEIDMAN: Your Honor, the witness  
15 is available for questioning.

16 ALJ HYMES: Thank you, Mr. Weidman.

17 Mr. Barnes for the utilities, please  
18 proceed.

19 MR. BARNES: Thank you, your Honor.

20 CROSS-EXAMINATION

21 BY MR. BARNES:

22 Q Good morning, Mr. Fulmer. Can you  
23 hear me okay? I'm Greg Barnes, and I'm  
24 examining you on behalf of the Joint IOUs.

25 A Mr. Barnes, I can hear you, but you  
26 are a bit faint.

27 Q Okay. Let me -- let me do this.  
28 Is this better?

1           A     That is indeed better. Thank you.

2           Q     Sure. Let's get oriented on  
3 your -- the scope of your testimony.

4                     You testify on the net value  
5 billing tariff that you just described, and  
6 that includes generation and transmission and  
7 distribution elements based on the avoided  
8 cost calculator, or ACC. Is that correct?

9           A     Yes, it is.

10          Q     And you will testify to the values,  
11 including -- included in that net value  
12 billing tariff. Correct?

13          A     That is correct. I derive the  
14 values that appear in the exhibits.

15          Q     And to get oriented, the net value  
16 billing tariff is essentially what is applied  
17 to the -- what some people would call the  
18 export value of the community solar projects  
19 described in SEIA -- in your proposal. Is  
20 that correct?

21          A     Yes, it is.

22          Q     Okay. Now, refer to page 10 of  
23 your rebuttal testimony on -- that is Exhibit  
24 CCS-04, starting at line 22.

25          A     Yes, I see that.

26          Q     You claim that the -- and I quote,  
27 "The CCSA net value billing tariff explicitly  
28 addresses the issue of when the highest cost

1 of the distribution system occurs by only  
2 providing payments during the hours when  
3 avoided distribution and transmission and  
4 generating capacity costs are occurring," end  
5 quote.

6 Do you stand by that?

7 A I think that statement needs a bit  
8 of refinement. It's a bit overbroad.

9 The -- the picked periods where  
10 these costs would be addressed in the  
11 proposed tariff are geared more towards  
12 the gen- -- the period where the generation  
13 capacity is needed, particularly in the  
14 short-term. That doesn't always completely  
15 overlap with when the distribution and  
16 transmission system needs occur, per the  
17 avoided cost calculator. So that's a bit of  
18 an overstatement, although I do refer you to  
19 the next sentence where I point out in the  
20 Public Advocate Office figure where it does  
21 show some distribution avoided costs, and  
22 that they are falling in that particular  
23 timeframe.

24 Q I -- I just would like to focus on  
25 what your proposal is, and I want to confirm  
26 that the ACC values for generation and T&D  
27 are included in your value stack only for 264  
28 peak hours in the year. Is that correct?

1           A     That is correct.

2           Q     Did you see the email I served  
3     Wednesday that asked you to review Exhibit  
4     IOU-14 and an accompanied spreadsheet with  
5     ACC output?

6           A     I did receive that email, and have  
7     the Exhibit IOU-14 in front of me now.

8           Q     Okay. And were you -- I -- you  
9     know, I appreciate you looking at that in  
10    preparation for this, and I thank you and  
11    Mr. Weidman.

12                   Now, could you confirm that the ACC  
13    output is taken directly from the latest  
14    approved ACC, that is the 20 -- I apologize  
15    to the reporter, but that is the 2021 ACC  
16    Electric Model v1b.xlsx for the scenario,  
17    quote, "PG&E CZ 11, start year 2021, 25-year  
18    levelization"?

19           A     I can't specifically confirm that,  
20    although I am roughly familiar with your  
21    source there. I didn't go back and do a  
22    line-by-line examination of whether it was  
23    exactly the same; but, I'll work under the --  
24    I'll answer your questions, you know, based  
25    on the exhibit in front of me.

26           Q     I -- I appreciate that,  
27    Mr. Fulmers (sic).

28                   And your workpapers indicate you

1 did download spreadsheets from the avoided  
2 cost calculator as part of your testimony  
3 preparation. Correct?

4 A Yes, we did download the -- the  
5 updated avoided cost calculator for 2021, you  
6 know, per my rebuttal testimony a few pages  
7 on.

8 Q Now, if we could refer to your  
9 rebuttal testimony, Exhibit CCS-04, at  
10 page 13, in that very pretty table, Table 1.

11 A Uh-huh. Yes.

12 Q And I'll refer you to the right  
13 column, extreme right column, where you have  
14 values for T&D capacity and generated  
15 capacity. Do you see that?

16 A I do.

17 Q And the white column for T&D  
18 capacity is .2247 cents. Is that correct?

19 A Yes, that is correct. I see that  
20 on the table.

21 Q Okay. And just to get people  
22 oriented, for the gen capacity, that's .2342  
23 cents. Is that correct?

24 A Yes, it is.

25 Q And if we go, then, to exhibits --  
26 Exhibit IOU-14, in the column labeled "Annual  
27 Sum" on the right side, that -- that gets you  
28 the \$121, if you multiply those two numbers



1     summed, does it not, if you multiply it by  
2     264?

3             A     I did look at that spreadsheet.  
4     Again, that calculation in the -- and I did  
5     duplicate that sum, yes.

6             Q     Okay. So let -- let's clarify,  
7     going back to page 10 of your rebuttal  
8     testimony.

9             You -- you state that your value is  
10    based on the narrow window of the 264 peak  
11    hours of the year. Is that correct?

12            A     That is correct.

13            Q     So would you agree that you set  
14    your proposed T&D capacity and generation  
15    capacity peak rates by taking the annual sum  
16    of those value categories from the ACC in all  
17    hours, and dividing by 264?

18            A     That is effectively correct. As in  
19    any ratesetting process, one has to make  
20    approximations and simplifications, and that  
21    is a simplification that I thought was  
22    appropriate to make.

23            Q     So you speak of simplification.  
24                    So you took values from outside  
25    this 264 hours?

26            A     Yes, just as one would do in  
27    setting retail rates. The peak periods for  
28    the distribution component -- components of

1 rates are also from the 4:00 to 9:00 period,  
2 even though, as we see here, the avoided  
3 costs may fall out of that. It's a  
4 simplification that's appropriate to make in  
5 ratemaking. And in particular, as we all  
6 know, the evening powers are -- the evening  
7 hours are particularly important right now in  
8 getting appropriate resources to serve those  
9 hours by creating the best incentive. I  
10 thought that that was appropriate, and I  
11 thought it was appropriate because not only  
12 the need during those hours, but also, the  
13 impact on the RIM was quite modest. It has a  
14 very good RIM score, even with these  
15 approximations.

16 Q Let me direct your attention to the  
17 last row -- rather, last -- yeah, the last  
18 row in Exhibit IOU-14, and that value is  
19 labeled peak hour values as percentage of  
20 total. Do you see that?

21 A I do.

22 Q And the peak hour there refers to  
23 your 264 hours. Did you understand that?

24 A That those were the peak hours,  
25 yes.

26 Q And according to this -- I will  
27 confess, I went to law school because I was  
28 bad at arithmetic. This was prepared by

1 Mr. Kerrigan.

2 Do you agree with the percentages  
3 in that row, which suggest, for -- for  
4 example, the total of the values in your rate  
5 come from only 48 percent of those peak  
6 hours, and not 100 percent, as your testimony  
7 indicates?

8 A I agree with that, although it  
9 doesn't necessarily surprise me. The peak  
10 period was designed primarily around the  
11 near-term hours.

12 If you go back to the opening  
13 testimony, one can see that I clearly chose  
14 the peak periods based on the 19 -- or excuse  
15 me, the 2020 avoided costs, and at that  
16 point, I was capturing 90 percent of the  
17 generation capacity hours.

18 So the fact that, when one  
19 levelizes and spreads it across, it deviates  
20 from that doesn't surprise me.

21 Q So, in fact, you took values from  
22 outside those peak hours in developing  
23 your -- your -- your rate that you add to the  
24 value stack. Is that correct?

25 A Yes. I was quite clear about that  
26 in my testimony.

27 Q Mr. Fulmer, I have no -- no further  
28 questions. Thank you.

1 ALJ HYMES: Ms. Folk, any -- or excuse  
2 me. Mr. Weidman, any redirect?

3 MR. WEIDMAN: No, your Honor.

4 ALJ HYMES: Okay. Then, Mr. Fulmer,  
5 you are dismissed. Thank you very much.

6 THE WITNESS: Thank you.

7 MR. BARNES: Your Honor, if I may make  
8 a procedural suggestion, we intend to move  
9 Exhibit IOU-14 into evidence. And Mr. -- in  
10 the event Mr. Weidman has something to say  
11 about that, it might be better to have the  
12 colloquy with the witness fresh in mind as we  
13 discuss the exhibit. Or -- or we can wait  
14 for the end of the day, as the usual  
15 practice; just a suggestion.

16 ALJ HYMES: I -- I would prefer that we  
17 wait -- wait until the end of the day. Thank  
18 you.

19 MR. BARNES: Thank you, your Honor.

20 ALJ HYMES: All right. Let's go off  
21 the record.

22 (Off the record.)

23 (Brief recess.) ]

24 ALJ HYMES: Let's go back on the  
25 record.

26 Mr. Wiedman, please proceed. You're  
27 on mute, Mr. Wiedman.

28 Let's go off the record.

1 (Off the record.)

2 ALJ HYMES: We'll be back on the  
3 record.

4 Mr. Wiedman, please proceed.

5 MR. WIEDMAN: Thank you, your Honor.

6 BRANDON SMITHWOOD, called as a  
7 witness by The Joint CCAs, having  
8 previously attested, testified as  
9 follows:

9 DIRECT EXAMINATION

10 BY MR. WIEDMAN:

11 Q Good morning, Mr. Smithwood. Could  
12 you please state and spell your name for the  
13 record.

14 ALJ HYMES: Mr. Smithwood, you are on  
15 mute. There you go.

16 THE WITNESS: Okay. Can you hear me  
17 now?

18 ALJ HYMES: Let's go off the record.

19 (Off the record.)

20 ALJ HYMES: Let's go back on the  
21 record.

22 MR. WIEDMAN: Thank you, your Honor.

23 Q Good morning, Mr. Smithwood, could  
24 you please state and spell your name for the  
25 record.

26 A Yes, Brandon Smithwood. Brandon is  
27 B-r-a-n-d-o-n, and Smithwood is  
28 S-m-i-t-h-w-o-o-d.

1           Q    And which exhibits are you  
2 sponsoring in this proceeding?

3           A    My direct testimony and my rebuttal  
4 testimony, which are Exhibits CCS-01 and  
5 CCS-03.

6           Q    And were the contents of these  
7 exhibits prepared by you or under your  
8 direction?

9           A    Yes, they were.

10          Q    Do you have any changes,  
11 corrections, or additions to your testimony?

12          A    No, I do not.

13          Q    Are the facts contained in your  
14 testimony true and correct to the best of  
15 your knowledge?

16          A    Yes, they are.

17          Q    Are the opinions expressed in your  
18 testimony based upon your best professional  
19 judgment?

20          A    Yes, they are.

21          Q    And if you are asked these same  
22 questions today, would your answers be the  
23 same?

24          A    Yes.

25          MR. WIEDMAN: Your Honor, the witness  
26 is available for questioning.

27          ALJ HYMES: Thank you.

28               Mr. Barnes, you may proceed.

1 MR. BARNES: Thank you, your Honor.

2 CROSS-EXAMINATION

3 BY MR. BARNES:

4 Q Good morning, Mr. Smithwood. I'm  
5 Greg Barnes. I'll be examining you on behalf  
6 of the Joint IOUs. Can you hear me okay?

7 A I can.

8 Q Thank you. Let's get oriented.  
9 I'll refer you to Exhibit CCS-01 of your  
10 direct testimony at page 19 starting at  
11 line 2. Basically you give an overview of  
12 your net value billing tariff; is that  
13 correct?

14 A Page 19, line 2?

15 Q Yes.

16 A Yes, I'm there.

17 Q Okay. And basically what you're  
18 describing is a price for export compensation  
19 by the community solar generator; is that  
20 correct?

21 A That is correct.

22 Q And this is not a net metering  
23 arrangement, is it? The pricing is applied  
24 directly to the output of a community solar  
25 facility; is that correct?

26 A It is a net billing tariff, as a  
27 number of parties have proposed, so it is a  
28 successor to net metering.

1           Q    So in other words, a credit is  
2   applied to any eligible customer that  
3   subscribes to the community solar project  
4   under your proposal?

5           A    That's correct.

6           Q    I'm going to refer to CCSA's  
7   proposal for an Environmental Justice and  
8   Low-Income Market Transition adder as the EJ  
9   adder for the sake of brevity. Are you  
10  comfortable with that?

11          A    Yes, I am.

12          Q    So I'll refer you to your opening  
13  testimony, Exhibit CCS-01, page 25, where you  
14  discuss the EJ adder participation.

15          A    I'm there.

16          Q    Okay. And you define the eligible  
17  customers as those consumers enrolled in the  
18  CARE or FERA programs, CalFresh/SNAP, LIHEAP,  
19  and Head Start; correct?

20          A    Correct.

21          Q    And for the reporter, SNAP is an  
22  acronym, S-N-A-P, and LIHEAP is an acronym,  
23  L-I-H-E-A-P, just to clarify that.

24                Now, are there other limiting  
25  principles through subscription such as  
26  location or proximity?

27          A    There are not. You need to be a  
28  customer within the service territory of the



1 utility -- the distribution utility where the  
2 facility is.

3 Q And --

4 A Apologies. Can I correct that?

5 Q Oh, please. Please correct.

6 A For the tariff itself, all  
7 customers in order for -- to be an eligible  
8 low-income customer, the project would have  
9 to be in an environmental just -- in a DACC  
10 community. The customers could be anywhere  
11 in the service territory. Just wanted to  
12 make that correction.

13 Q I see. Now, it wasn't clear to me,  
14 probably because I'm too literal minded, but  
15 is eligibility for your entire program; that  
16 is, all the Value Stack, limited to the  
17 consumers that you describe starting at  
18 line 16?

19 MR. WIEDMAN: I'm going to object.  
20 That question wasn't clear to me, but if the  
21 witness understands it, that's fine.

22 THE WITNESS: I'm on page 25 of my  
23 direct testimony, and I'm seeing line 16 is  
24 "Why have you proposed prohibiting the use of  
25 credit scores as a screen for enrolling in  
26 the Net Value Billing Tariff?"

27 BY MR. BARNES:

28 Q Okay.

1           A    Are we referencing the same?

2           Q    Fair enough. I was referencing  
3 above that -- I'm sorry -- where you just  
4 described the eligible customers.

5 Mr. Wiedman may have a point. Let me try to  
6 rephrase.

7                    Could somebody who is not -- strike  
8 that. Are eligible -- could somebody  
9 subscribe to the community solar facility and  
10 get the net value billing without the EJ  
11 adder if they did not qualify for that adder  
12 as you describe?

13           A    Low-income customers are entitled  
14 to the value-based credit -- I'm sorry,  
15 non-low-income customers are entitled to the  
16 value-based credit as are the low-income  
17 customers.

18           Q    Okay. So the eligibility that you  
19 describe is limited solar to the EJ adder,  
20 not to the program itself?

21           A    I apologize. Can you clarify the  
22 eligibility. To what?

23           Q    I just want to confirm that  
24 eligibility to the EJ adder is limited to  
25 those you describe in your testimony in the  
26 CARE or FERA programs, et cetera?

27           A    No. The adder is available to all  
28 customers for a qualifying project. So if a

1 project qualifies for the market transition  
2 credit, and all customers subscribing to that  
3 project are eligible.

4 Q Thank you. Now we can get to  
5 line 16. You propose the use of credit  
6 scores to determine eligibility for  
7 participants in your EJ adder; correct?

8 A No. We propose prohibiting the use  
9 of credit scores.

10 Q I'm sorry. I misstated. Thank  
11 you. That clarifies. So developers  
12 marketing subscriptions in your proposed  
13 program would still have the sole discretion  
14 on whether or not a given applicant is  
15 accepted as a subscriber; right?

16 A Yes, they would have discretion  
17 over who subscribed.

18 Q Okay. So a developer could still  
19 use other data other than credit scores at  
20 their disposal to reject applicants they see  
21 as a credit risk; correct?

22 A That is correct. As I reference in  
23 my testimony, the community solar business  
24 model typically is not really relying on the  
25 creditworthiness of the customers at this  
26 point so -- but they could. That's true.

27 Q Do you know what percentage of the  
28 population of disadvantaged communities are

1 low to moderate income by your definition?

2 A Low income within disadvantaged  
3 communities. I do not.

4 Q Okay. Let's go to your testimony,  
5 same exhibit, Exhibit 1, pages 22 and 23,  
6 starting at line 9. I'll wait until you get  
7 there.

8 A "Moreover to ensure facilities"?  
9 Are we in the same spot?

10 Q Now you have to bear with me. I am  
11 confusing lines with page numbers. I  
12 apologize to everybody who has to sit through  
13 this. You define the term "generator  
14 account" at lines 19 on page 22 through the  
15 next page.

16 A Uh-huh.

17 Q And you defined this as being  
18 existing VNEM tariffs. I will read starting  
19 at line 19:

20 The 'Generator Account' is a  
21 customer account where the  
22 renewable electrical generation  
23 facility, ('REGF'), is located and  
24 interconnected to the  
25 investor-owned utilities'  
26 distribution system through a  
27 single meter.

28 A generator account may or may not

1                   have load beyond that required by  
2                   the REGF who takes service with  
3                   the generator owner or their  
4                   designee as the customer of  
5                   record.

6                   May I refer to the REGF in this  
7                   question as just the generator for brevity?

8                   A     Yes.

9                   Q     Okay. Now, do you intend that the  
10                  generator account that served load behind the  
11                  generator meter other than that necessary for  
12                  the station load of the generator?

13                  A     Yes. Under our proposed tariff,  
14                  that would be admissible.

15                  Q     So in that case, if the generator  
16                  account's load significantly increased such  
17                  that the exports from the generator are  
18                  insufficient to meet customer subscription,  
19                  how would that impact the billing  
20                  arrangement?

21                  A     That account would still have an  
22                  allocation. Even if there were to be no  
23                  material load behind the meter, you have a  
24                  monthly allocation and there's a generator  
25                  account where credits can be banked, say, if  
26                  you lose or gain a customer. So you would  
27                  manage that load behind the meter in much the  
28                  same you would as any of your accounts. So

1     you'd have to make sure that your allocations  
2     match customer subscriptions.

3             Q     So are you --

4             ALJ HYMES:   Mr. Barnes, excuse me.

5     Okay.   Thank you.   Your video had gone off  
6     for a brief moment.   You're back with us.  
7     Please proceed.

8             MR. BARNES:   Thank you, your Honor.

9             Q     So what you're saying is that the  
10     generator account would simply manage the  
11     behind-the-meter load so it wouldn't cut into  
12     the generation necessary to support customer  
13     subscriptions.   Is that what you're saying?

14            A     If I understand your question, no.  
15     The exports are the credits that are  
16     available to be allocated.   This is exactly  
17     how it works in New York's Value of  
18     Distributed Energy Resources Tariff.   The  
19     majority of facilities don't have meaningful  
20     load behind the meter, but the tariff allows  
21     for that, and the value-based credits are  
22     based on net exports.

23            Q     Thank you.   Refer to page 35 of  
24     your testimony, Table 3 if you can.   Let me  
25     know when you're there.

26            A     I am there.

27            Q     This table represents the megawatt  
28     targets by service territory for your

1 proposed -- for your community solar  
2 proposal; is that true?

3 A That's correct.

4 Q And the target is 1,000 -- total  
5 target for the state is 1,229 megawatts; is  
6 that true?

7 A That is correct.

8 Q Are you aware that there is  
9 currently excess solar generation in  
10 California during much of the day?

11 A I am aware, and that was  
12 specifically what our proposal is designed to  
13 address, providing compensation largely in  
14 the hours of highest need, which are no  
15 longer in the middle of the day.

16 Q But in terms of generating output,  
17 won't the 1,229 megawatts simply increase the  
18 solar excess?

19 A It is not our expectation because,  
20 as evidenced in E3's cost effectiveness  
21 evaluation, it's not cost effective for the  
22 participant to get compensated with the  
23 avoided cost values during the middle of the  
24 day. On a levelized basis, they are about 2  
25 to 3 cents per kilowatt-hour. The project  
26 would be nonviable.

27 Q So are you saying that the project  
28 simply won't generate if it contributes to

1 the excess?

2 A I'm saying that no one will build  
3 the project because they won't be financially  
4 viable because the compensation for exports  
5 in the middle of the day are very low.

6 Q Does CCSA have a position on  
7 whether the current NEM tariffs require the  
8 form beyond your proposal?

9 A We are proposing our tariff as a  
10 subtariff to the NEM metering tariff. We are  
11 not opining on the NEM tariff available to  
12 residential and commercial customers. This  
13 is an expansion of the virtual NEM metering  
14 tariffs available.

15 Q So you're aware that this  
16 proceeding aims to inform the Commission's  
17 Net Energy Metering program though; right?

18 A I'm aware. I'm also aware that the  
19 scope of the proceeding is inclusive of the  
20 subtariffs.

21 Q Do you agree that The Values Stack  
22 and EJ credits you propose will be paid for  
23 by nonparticipating ratepayers?

24 A Yes. On the Value Stack, yes. We  
25 are agnostic as to how costs are recovered  
26 for the EJ adder.

27 MR. BARNES: Your Honor, I have no more  
28 examination for Mr. Smithwood. Thank you.



1 ALJ HYMES: Thank you.

2 Any redirect, Mr. Wiedman?

3 MR. WIEDMAN: Thank you. If I could  
4 have a moment with the witness, your Honor.

5 ALJ HYMES: Yes. We'll be off the  
6 record.

7 (Off the record.)

8 ALJ HYMES: We will be back on the  
9 record.

10 MR. WIEDMAN: I have no redirect, your  
11 Honor.

12 ALJ HYMES: Thank you.

13 Next up is Mr. Freedman from TURN.  
14 Mr. Freedman, you may proceed.

15 MR. FREEDMAN: Thank you, your Honor.

16 CROSS-EXAMINATION

17 BY MR. FREEDMAN:

18 Q Good afternoon, I believe, where  
19 you are, Mr. Smithwood.

20 A Good afternoon and good morning to  
21 you.

22 Q I'd like to start with your  
23 rebuttal testimony on pages 12 and 13 where  
24 you provide a cost comparison between  
25 existing programs that serve low-income  
26 customers, particularly those in  
27 disadvantaged communities and your proposed  
28 EJLI Tariff.

1 Do you see that?

2 A Yes, Table 2; correct?

3 Q Yes, exactly. You perform a  
4 calculation which you describe on page 12  
5 where you determine the cost per participant.  
6 As part of that, you're assuming, am I  
7 correct, that there would be 1,229 megawatts  
8 of new capacity eligible for the market  
9 transition credit?

10 A I am assuming that, yes.

11 Q And the market transition credit  
12 that is proposed for projects located in  
13 disadvantaged communities would be calculated  
14 in order to ensure that each participant  
15 would receive the economic value equal to the  
16 difference between the projected ACC values  
17 for exports and a retail ratebased  
18 compensation structure for exports; is that  
19 right?

20 A That would be how our market  
21 transition credit would be determined,  
22 correct.

23 Q And would the MTC change in future  
24 years, if the delta between the ACC values  
25 and the retail rates changes?

26 A We have proposed that it would be  
27 established once. We did not indicate when  
28 that would take place, presumably the

1 Commission order could be in a tariff  
2 implementation. So as you may have noticed  
3 in my direct testimony and rebuttal  
4 testimony, we have different values for the  
5 market transition credit, but it is not our  
6 assumption that going forward the MTC will  
7 adjust as retail rates and ACC values change.

8 Q And the difference between the  
9 various proposals that you've made in this  
10 case, is that a function of relying on the  
11 2020 versus the 2021 ACC values?

12 A Yes, the 2021 ACC values -- and I  
13 have a table in my rebuttal testimony that  
14 updates the MTC values because they are much  
15 lower, and retail rates are the same as they  
16 were earlier in the spring than TC values in  
17 the table and in my rebuttal testimony are  
18 higher.

19 Q If the Commission were to update  
20 the ACC in a future proceeding and calculate  
21 higher values for the nonenergy components of  
22 the ACC, do you think it would be reasonable  
23 to adjust your proposed market transition  
24 credit accordingly?

25 A I think it would be reasonable. We  
26 haven't proposed that. For simplicity's  
27 sake, we envision this MTC being much like  
28 the California Solar Initiative, sort of like

1 a defined block of compensation and capacity  
2 at that compensation rate, but I believe it  
3 would be reasonable to change it over time.

4 Q Okay. Going to Table 2 on page 13  
5 of your rebuttal, you calculate the cost for  
6 each participant under your tariff as  
7 \$6,007.75; is that right?

8 A Yes.

9 Q Is your proposal for the  
10 participant to receive the MTC or for the  
11 project owner or the generator account to  
12 receive the MTC?

13 A We propose two ways in which the  
14 MTC could be allocated. One would be as a  
15 cents-per-kilowatt-hour credit, which would  
16 be on the customer's bill over the term of  
17 the tariff. The other would be an up-front  
18 incentive that would be available to the  
19 customer -- I'm sorry -- that would be  
20 available to the project and, in turn, the  
21 project would have to provide a bill credit  
22 value to the customer. That bill credit  
23 value to the customer is equivalent to at  
24 least half the value of that market  
25 transition credit.

26 I'll also note that we've proposed  
27 net crediting in my direct testimony, also  
28 referred to as simplified billing, where the

1 customer would receive a net credit on their  
2 bill. So, for example, if the credit was 10  
3 cents and the subscription price with  
4 community solar providing was 5 cents, they  
5 would receive a 5-cent bill credit and have  
6 no outstanding obligation to the community  
7 solar provider. So that's another way in  
8 which those -- the value of that credit could  
9 be shared amongst the subscriber and the  
10 project.

11 Q And in response to questions from  
12 Mr. Barnes, you explained that the MTC that  
13 you're proposing would be provided for both  
14 low-income and non-low-income subscribers so  
15 long as the project met the basic eligibility  
16 criteria; is that right?

17 A That is correct.

18 Q And your proposal is that a minimum  
19 of 50 percent of the subscription based on  
20 capacity would have to come from  
21 low-income-eligible customers?

22 A That is correct.

23 Q So does that mean that when you  
24 provide a value here on Table 2, cost per  
25 customer, that would be a cost for both  
26 low-income and non-low-income subscribers?  
27 It doesn't distinguish, does it?

28 A In making this table, I had to make

1 simplifying assumptions and I assumed these  
2 were all low-income customers.

3 Q But, in fact, this credit could be  
4 provided for non-low-income subscribers of  
5 the project as well; right?

6 A That is correct.

7 Q Do the other programs you've listed  
8 here in this table have income eligibility  
9 requirements for participation?

10 A Yes, they do.

11 Q And so if only half of the  
12 subscriptions to a particular project were  
13 from low-income subscribers, wouldn't the  
14 cost effectively be about double what you're  
15 proposing here per low-income subscriber?

16 A Yes, but that would make the  
17 comparison here not apples to apples. For  
18 example, the CSGP program allows community  
19 sponsors that are nonresidential,  
20 non-low-income, to subscribe to the project.  
21 So there's one example where it would not be  
22 an apples-to-apples comparison since some of  
23 those subscribers may be non-low-income. ]

24 Q Okay. Thank you. Let's turn to  
25 your direct testimony, page 37 and 38, where  
26 you describe some of the benefits associated  
27 with this market transition credit. Let me  
28 know when you're there. And particularly the

1 top of page 38.

2 A I am there. Is there something  
3 within this paragraph you're referring to in  
4 particular I should -- should I be looking at  
5 line 1 of 38?

6 Q On page 38 line 6, you state that:  
7 CCSA proposes that at least half  
8 of the adder value be required to  
9 be conveyed to the participant to  
10 ensure these enhanced savings are  
11 realized.

12 A Yes. Okay.

13 Q Does this mean that you're  
14 proposing that only half of the MTC value  
15 would be required to be conveyed to  
16 customers, participants?

17 A Yes.

18 Q And what would happen to the other  
19 half of the value?

20 A Presumably that would be realized  
21 by the project owner.

22 Q Do you have any constraints in your  
23 proposal on ensuring that developers don't  
24 retain excessive amounts of subsidy money  
25 beyond this one related to the project?

26 A Limitations to non-MTC  
27 compensation?

28 Q Yes.

1           A    No. We don't have limitations. We  
2 do provide for the development of  
3 disclosures. So the Commission has, under  
4 our proposal, control over some terms within  
5 what can be provided. So in that respect,  
6 there are controls over the entire  
7 transaction, which can presumably include  
8 non-MTC compensation as well as MTC  
9 compensation. But I'm not -- I'm not sure  
10 what incentives we'd be referring to here.

11           Q    But am I correct that your proposal  
12 as you described it a moment ago was that the  
13 entire MTC would go to participants if it was  
14 paid out on a cents per kilowatt-hour over  
15 time, but that here only half of the value  
16 would have to go to subscribers if it was  
17 provided as an upfront credit? Or am I  
18 misunderstanding?

19           A    I believe that may have been  
20 ambiguous. This was in the view if it was an  
21 upfront credit would be 50 percent. CCSA is  
22 not opposed to having the same limitations on  
23 if it was a cents per kilowatt-hour credit.

24           Q    And why is it reasonable for the  
25 developer to be able to retain half of this  
26 credit?

27           A    These are customers that are harder  
28 to serve. They may have literacy barriers.



1 Typically, you will work through a community  
2 partner that know -- that low-income  
3 customers trust. And this builds a valuable  
4 relationship with the customer, but there's  
5 substantial expense. So enhanced incentive  
6 to the developer ensures that these  
7 communities are served.

8 Q Are you locked into the 50 percent  
9 criteria? Or would you be open to a  
10 different formulation?

11 A CCSA is open to different  
12 formulations both for how the MTC is  
13 calculated and for what is provided to  
14 subscribers.

15 Q And is it your intention that --  
16 it's not your intention is it that this  
17 credit be used to enrich developers, but  
18 rather simply to cover legitimate costs of  
19 project development and administering  
20 accounts; is that right?

21 A That is correct.

22 Q Let's stay in your direct testimony  
23 and go to page 33 where we talk -- you talk  
24 about the 50 percent subscription requirement  
25 from eligible low-income customers.

26 Is it your proposal that the  
27 50 percent subscription requirement be a  
28 one-time showing or an ongoing requirement

1     that requires regular compliance  
2     demonstrations?

3             A     Our expectation is that it would be  
4     ongoing.

5             Q     And what would be the consequences  
6     of a project failing to continue to  
7     demonstrate that at least 50 percent of its  
8     capacity is serving eligible low-income  
9     customers?

10            A     We have not specified that. In the  
11     implementation proposals in my direct  
12     testimony, we've discussed billing and  
13     crediting work and consumer disclosures that  
14     would be forthcoming. That would be the  
15     place where penalties could be determined.

16                    So there's at least a couple of  
17     ways that this could be achieved. Credits  
18     could not be applied if there were  
19     insufficient numbers of low-income customers.  
20     So if you were below that hurdle, you could  
21     forfeit effectively an amount of  
22     compensation.

23                    There could also be a process for  
24     recertification as a way to, on a periodic  
25     basis, ensure that sufficient members of  
26     eligible customers are subscribed.

27                    There's a monthly exchange of  
28     billing data that happens between the

1 subscriber organization and the utility. So  
2 there's a clear accounting path whereby the  
3 utility can see what accounts are subscribed  
4 in the project and their qualifications.

5 So we didn't define exactly what  
6 the repercussions should be. But they'll be  
7 a very (inaudible) ask for determining  
8 whether projects remain in compliance.

9 Q Would you agree this might be a  
10 problem if there was an upfront one-time MTC  
11 provided that essentially couldn't be clawed  
12 back?

13 A Conceptually, it could. But,  
14 again, if your project is unable to receive  
15 some or all of its compensation or it is  
16 decertified, those are substantial penalties,  
17 which particularly prospectively, you're not  
18 going to want to finance a project if you  
19 don't think you can meet those hurdles.

20 Q Would those kinds of remedies also  
21 have an adverse impact on low-income  
22 subscribers to the project that were  
23 depending upon continued participation?

24 A In the hypothetical that one of  
25 these projects ceased operating, a low-income  
26 customer under our proposal would be no worse  
27 off than they were before they subscribed.

28 We prohibit exit fees from

1 contracts, which make any contract null and  
2 void. And as I mentioned, we proposed net  
3 crediting whereby the customer would have no  
4 ongoing obligation to the community solar  
5 provider.

6 Q Okay. Thank you. Let's go to your  
7 rebuttal testimony, pages 14 and 15, you  
8 discuss Title 24 compliance.

9 A I'm there.

10 Q And on line 10 of page 15 you  
11 state:

12 Regardless, successor tariff  
13 options are not the lowest cost  
14 route to Title 24 compliance if  
15 compliance is fully dependent on  
16 rooftop solar installations.

17 What do you mean by this statement?

18 A We in the subsequent table, we used  
19 E3's cost effectiveness evaluation, which was  
20 prepared for the Commission as part of this  
21 proceeding. And we took their first year  
22 cost shift for each of the proposals and  
23 demonstrated that our proposal was -- if half  
24 of the buildings built under the Building  
25 Code were implied under community solar under  
26 our proposal, it would be less expensive than  
27 the alternative proposals in the docket.

28 Q And are you suggesting then that

1 the CCSA proposal could be used as an  
2 alternative to installing rooftop solar by  
3 those developers on those facilities?

4 A Yes. Currently the Building Code,  
5 the Title 24 Building Code, allows for  
6 community solar. The development of  
7 community solar projects to meet that  
8 ability. And the Building Code has been  
9 limited because there are viable tariffs  
10 within most of the utilities for developing  
11 such projects.

12 Q Okay. Thank you. I'd like to ask  
13 about the treatment of renewable energy  
14 credits. Who would own the renewable energy  
15 credits associated with a shared solar  
16 facility?

17 A Our proposal was silent on that.  
18 Presumably they'd be owned by the generator.  
19 CCSA is supportive of having those REGFs  
20 registered on a REGF tracking service and  
21 retired on behalf of the customers.

22 Q So you're not proposing that the  
23 REGFs could be sold by the developer to other  
24 entities besides the subscribers are you?

25 A My testimony was silent to that.  
26 What I'm saying today is we are fine with  
27 them being retired.

28 Q Okay. Thank you. Page 21 of your

1     rebuttal testimony discusses payback periods  
2     as a metric for evaluation.  There's a Q&A on  
3     page 21 that addresses this issue.  Do you  
4     see that?

5             A     Correct.

6             Q     And starting on line 9 you state:  
7                     Payback period, however, may not  
8                     be a relevant metric for community  
9                     solar projects using CCSA's  
10                    proposed Net Value Billing  
11                    Tariff.

12            Do you agree that a payback period  
13     could be calculated for the developer of a  
14     community solar project?

15            A     I agree with that.

16            Q     Could a discounted payback metric  
17     evaluate when the present value of  
18     subscription fees plus any MTC exceeds the  
19     present value of ownership and operating  
20     costs?

21            A     I apologize, Mr. Freedman.  Could  
22     you restate that just maybe a little bit  
23     slower?

24            Q     Sure.  Could a discounted payback  
25     metric evaluate when the present value of  
26     subscription fees and any MTC revenues  
27     exceeds the present value of ownership and  
28     operating costs?

1           A     I agree it could. I think one of  
2     the elements of our tariff that is in  
3     contrast to others is a substantial amount of  
4     risk particularly with LMPs being floating.  
5     And also even though many of the values are  
6     contrasted effectively for the term of the  
7     tariff, from year to year the ACC is updated.  
8     The value available to new projects  
9     qualifying for the program changes.

10                So I think the challenge of doing  
11     that exercise would be differing assumptions  
12     of forward price guards.

13           Q     When you say "LMPs," you mean  
14     Locational Marginal Prices?

15           A     Yes. I should clarify our  
16     proposal's normal prices. But that was my  
17     intent, yes.

18           Q     And are you assuming that none of  
19     the projects described in your proposal would  
20     involve shared ownership by the subscribers?

21           A     Our tariff is amenable to that. We  
22     don't -- there are groups in California that  
23     want to own their own facilities, put them on  
24     site, use them for resiliency. This tariff  
25     would facilitate that is that most community  
26     solar subscribers want a much lower  
27     obligation relationship with the project.  
28     Something much more like Netflix where they

1 have a month-to-month subscription and can  
2 leave when they want. But our tariff would  
3 not foreclose that.

4 Q And you suggest here in the same  
5 paragraph that I referenced you, a scenario  
6 where a subscription -- a subscription fee  
7 would be 90 percent of the amount of a bill  
8 credit. Is that illustrative? Or is that  
9 designed to be, sort of, a binding  
10 constraint?

11 A That's illustrative. My general  
12 observation is that more competitive  
13 community solar markets offer better  
14 discounts. So if California has a robust  
15 large market, people are going to where  
16 possible have an incentive to provide a  
17 higher discount.

18 Just briefly, I used to live in  
19 another service territory in Massachusetts  
20 where there were limited numbers of community  
21 solar projects. The typical offering I would  
22 receive is 5 to 7 percent of the bill credit  
23 of savings. I moved a little bit west to a  
24 more rural part of the state, and my savings  
25 offers typically exceed 15 percent. So, you  
26 know, this is a commercial term that really  
27 varies based on the competitiveness of the  
28 market.



1           Q    But it's your expectation that the  
2 bill credit -- or the subscription fee, I am  
3 sorry, would be denominated as a percentage  
4 of the bill credit?

5           A    That requirement of our tariff that  
6 is the most common commercial terms today.

7           Q    And you would agree that under your  
8 proposal, the exports which would be priced  
9 at avoided cost values for energy could  
10 fluctuate quite a bit over the course of  
11 seasons and years; right?

12          A    Yes.

13          Q    Did this create some uncertainty  
14 for the project developer if they're  
15 realizing net revenues that are based on the  
16 difference between the bill credit and the  
17 subscription price?

18          A    It could because one of the reasons  
19 why this model, which was populized first in  
20 New York where the meter credit's in place,  
21 is the bill credit to the customer fluctuates  
22 with the value of the generation and  
23 therefore the subscription price fluctuates.  
24 So the customer never ends up paying more  
25 than they would if they weren't a subscriber.  
26 But if the value of the bill credit falls,  
27 their percentage declines with it.

28                   So I don't think the risk --

1     there's risk from energy prices for the  
2     developer but that subscription assuming the  
3     developer or the project owner uses this  
4     model of a percentage discount that provides  
5     some insulation with both parties.

6             Q     Okay. Thank you, Mr. Smithwood.

7             MR. FREEDMAN: Those are my questions.

8             ALJ HYMES: Thank you.

9                     Any redirect?

10            MR. WIEDMAN: Your Honor, I'll need a  
11     moment with my witness, please.

12            ALJ HYMES: Okay. We'll be off the  
13     record.

14                     (Off the record.)

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

17                     Mr. Wiedman?

18            MR. WIEDMAN: I have no redirect, your  
19     Honor.

20            ALJ HYMES: Okay. Thank you.

21                     Mr. Smithwood, you are dismissed.  
22     Thank you.

23            THE WITNESS: Thank you, your Honor.

24            ALJ HYMES: I would like to go ahead  
25     and proceed. We're a little bit behind  
26     schedule. But I would like to go ahead and  
27     proceed with the cross-examination of  
28     Chernick and Wilson.

1                   So let's go off the record.

2                   (Off the record.)

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

5                   And next up is the panel of Chernick  
6 and Wilson for Small Business Utility  
7 Advocates.

8                   PAUL CHERNICK and JOHN WILSON,  
9 called as witnesses by Small Business  
10 Utility Advocates, having previously  
been sworn, testified as follows:

11                  ALJ HYMES: Ms. Berrio Hayward.

12                                 DIRECT EXAMINATION

13 BY MS. BERRIO HAYWARD:

14                  Q     Yes. Thank you, your Honor.

15                                 Hello, Mr. Chernick and Mr. Wilson.  
16 So beginning my direct examination with  
17 Mr. Chernick.

18                                 Can you please state and spell your  
19 full name for the record?

20                  WITNESS CHERNICK: Yes. My name is  
21 Paul Chernick. I'm the president of Resource  
22 Insight Incorporated 5 Water Street  
23 Arlington, Massachusetts.

24                  Q     Wonderful. Thank you so much. And  
25 can you tell us which exhibits you're  
26 sponsoring in this proceeding?

27                  A     Yes. Mr. Wilson and I are  
28 co-sponsoring all of the exhibits marked as

1 SBUA that would be 1 through 8.

2 Q Thank you. And just for  
3 clarification, is that SBU-01 through SBU-08?

4 A Excuse me, yes. SBU-01, SBU-02,  
5 and so on up to SBU-08.

6 Q Thank you. And were these exhibits  
7 prepared by you in collaboration with  
8 Mr. Wilson?

9 A They were.

10 Q Thank you. Do you have any  
11 changes, corrections, or additions to make at  
12 this time?

13 A No, I don't.

14 Q And are the facts contained in  
15 these exhibits true and correct to the best  
16 of your knowledge?

17 A Yes, they are.

18 Q And do the opinions expressed in  
19 these exhibits present your best professional  
20 judgement?

21 A They do.

22 Q Thank you very much.

23 And, Mr. Wilson, can you please  
24 state and spell your full name for the  
25 record, please?

26 WITNESS WILSON: John D. Wilson,  
27 J-o-h-n D W-i-l-s-o-n.

28 Q Thank you. And directing your

1 attention to Exhibits SBU-01 through SBU-08,  
2 were these prepared by you in collaboration  
3 with Mr. Paul Chernick?

4 A They were.

5 Q And do you have any changes,  
6 corrections, or additions to make at this  
7 time?

8 A No. Thank you.

9 Q And are the facts contained in  
10 these exhibits true and correct to the best  
11 of your knowledge?

12 A Yes.

13 Q And do the opinions expressed in  
14 these exhibits present your best professional  
15 judgement?

16 A Yes.

17 Q Thank you very much.

18 MS. BERRIO HAYWARD: Your Honor, this  
19 panel consisting of Mr. Chernick and  
20 Mr. Wilson is now available for  
21 cross-examination.

22 ALJ HYMES: Thank you very much.

23 And, Mr. Barnes, you may proceed.

24 MR. BARNES: Your Honor, I'm not on  
25 video right now, but I don't believe the  
26 Joint IOUs have any cross for this witness.  
27 I certainly don't.

28 ALJ HYMES: I apologize. That is

1 correct.

2 Mr. Freedman?

3 CROSS-EXAMINATION

4 BY MR. FREEDMAN:

5 Q Thank you, your Honor. I do have  
6 cross for these witnesses.

7 Good afternoon, Mr. Chernick and  
8 Mr. Wilson. I'd like to start by turning you  
9 to your direct testimony, page 9. And at the  
10 bottom of this page on lines 18 through 20,  
11 you state that it is -- you're talking about  
12 storage resources in this section, and you  
13 state:

14 It is also possible to deploy  
15 storage resources in a manner that  
16 the utility can rely on them for  
17 dispatch to address reliability  
18 problems both systemwide and  
19 locally.

20 Do you see that?

21 WITNESS CHERNICK: Yes.

22 Q And just whoever wants to answer  
23 the question is okay. I'm not going to  
24 direct the question to either one of you. Is  
25 that acceptable?

26 A Yeah. That will be fine.

27 (Reporter clarification.)

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

1 (Off the record.)

2 ALJ HYMES: We'll be back on the  
3 record.

4 BY MR. FREEDMAN:

5 Q How does SBUA propose to deploy  
6 storage resources in a manner that the  
7 utility can rely upon for dispatch?

8 WITNESS CHERNICK: Well, there's a  
9 number of ways of doing that including  
10 contractual arrangements to allow the utility  
11 to control the dispatch and pricing signals.

12 Q And do you offer specific proposals  
13 with respect to both of those options in your  
14 testimony?

15 A I don't think we get into that  
16 level of detail.

17 John, am I forgetting anything?

18 WITNESS WILSON: No. This is John  
19 Wilson speaking.

20 Mr. Freedman, I'd say that we are  
21 providing some degree of pricing signals in  
22 this proposal. I think that that sentence is  
23 a general statement about the value of solar  
24 resources, and it is applicable to the entire  
25 universe of solar storage resources. Not  
26 just behind-the-meter storage resources  
27 associated with a net metering generation  
28 system.

1           WITNESS CHERNICK: And specifically  
2 storage and solar resources.

3           Q And to your knowledge, are any  
4 behind-the-meter storage resources under the  
5 net metering tariff today directly  
6 dispatchable by the utility?

7           A I'm not aware of it one way or the  
8 other. I don't know enough about what kind  
9 of facilities are covered under the various  
10 demand response programs either at the  
11 utility or the CAISO level.

12          Q Okay. Thank you. Let's move to  
13 page 31 of your direct testimony where you  
14 discuss netting periods. And specifically  
15 starting on line 26, you reference a proposal  
16 to retain:

17                   NEM 2.0 netting periods, netting  
18 practices, for customers in  
19 disadvantaged communities and  
20 small business customers.

21                   Do you see that?

22          A Yes.

23          Q What are -- can you explain how the  
24 current netting periods work under net  
25 metering 2.0?

26          A They are monthly calculations. So  
27 that power supplied at one time during the  
28 month can be used to offset consumption at



1 another time during the month in the same  
2 rate period.

3 Q Okay. If I were to turn to page --  
4 if you can turn to page 32, where you have a  
5 Table 4. And you propose initial and final  
6 netting periods by customer category. Are  
7 you proposing annual netting periods  
8 initially for disadvantaged community  
9 customers and small businesses?

10 A Yes. That's the affect of the  
11 monthly netting that's accumulated currently  
12 for the year.

13 Q So you're proposing a longer  
14 netting period than applies under net  
15 metering 2.0?

16 A I don't believe that's actually the  
17 case. The -- there are payments made for net  
18 consumption on a monthly basis. And net  
19 exports to the system, I believe, are  
20 accumulated for the year with an annual  
21 true-up.

22 John, have I misstated anything  
23 there?

24 WITNESS WILSON: I believe that's  
25 correct. The distinction there is the  
26 true-up we're proposing shortening that for  
27 the residential. All other nonresidential  
28 and all systems greater than 1 megawatt to

1 monthly so that there would be no credits  
2 carried forward from month-to-month. But the  
3 annual would have the credits carried  
4 forward.

5 So the annual is the equivalent to  
6 the current net metering system, and the  
7 monthly is a slightly modified version of the  
8 current net metering system.

9 WITNESS CHERNICK: The effect of the  
10 monthly would be that a customer that created  
11 a surplus in the springtime for example,  
12 couldn't use that in the summertime to offset  
13 their retail load. ]

14 Q And did that mean that any excess  
15 on a monthly basis, under your proposal,  
16 would be compensated at an avoided cost-based  
17 value?

18 WITNESS WILSON: That's correct. This  
19 is John Wilson --

20 Q And --

21 A Speaking.

22 Q And any exports that are netted  
23 against imports within the applicable netting  
24 period, under your proposal, would receive a  
25 retail rate credit. Is that the proposal?

26 WITNESS CHERNICK: Yes, as is the case  
27 now; although, the periods would -- would  
28 shorten over time.

1           Q    And you propose to move from annual  
2           or monthly to daily netting periods over some  
3           transition period.  Is that correct?

4           A    That's correct.

5           Q    I looked for a specific timetable  
6           in your testimony, and the best I could find  
7           was a reference to one or two years after  
8           implementation of the NEM successor tariff.  
9           Is that a correct representation of your  
10          proposal?

11          WITNESS WILSON:  This is John Wilson.

12                No.  That is our expectation as to  
13          what would be reasonable for the residential  
14          transition, and that was based on some  
15          findings related to payback period and  
16          cost-effectiveness.  But, for the -- all  
17          other non-residential and all systems greater  
18          than one megawatt category, we don't have a  
19          specific estimate as to when that would  
20          become appropriate.  We would expect the  
21          Commission to balance factors relating to  
22          further evidence about payback periods and  
23          customer adoption within those sectors,  
24          and -- or classes of customers, and once  
25          those -- once the Commission was satisfied  
26          that the market had matured in those markets  
27          then would move to daily for those markets,  
28          as well.

1           Q     Would you agree that -- well, do  
2     you have a specific set of metrics the  
3     Commission should apply to make this a  
4     transparent calculation, or are you proposing  
5     that parties be able to introduce whatever  
6     evidence they have on relevant considerations  
7     as part of a determination of the transition  
8     period?

9           A     I'm happy to take -- go ahead,  
10    Mr. Chernick.

11           WITNESS CHERNICK:    Okay.   Go -- go  
12    ahead, John.

13           WITNESS WILSON:    This is John Wilson  
14    speaking.

15                   And I would say that this really  
16    brings in the issue of the quality of the  
17    metrics overall in this proceeding.

18                   One of the challenges is that, for  
19    example, in our evaluation of the commercial  
20    customers, using the E3 model, the current  
21    rates that are modeled in that -- that are  
22    the E3 modeled have -- are not very well  
23    differentiated, and don't really reflect  
24    marginal costs, so you don't see a strong  
25    differentiation; and so that affects a lot of  
26    the results in that analysis.

27                   And so one of the reasons we really  
28    didn't pin down specific criteria is that

1     there really needs to be a lot more work done  
2     on how we're going to actually quantify these  
3     evaluations.  So we view a lot of these  
4     results, in terms of TRC and payback and  
5     participant cost test results, as being  
6     indicative of -- of numbers, and I think  
7     TURN's testimony actually pointed out a lot  
8     of this, as well, a lot of questions about  
9     sort of methods of calculating different  
10    metrics and that sort of thing.  So we did  
11    not present specific metrics, because I think  
12    that would involve presenting the methodology  
13    behind calculating that met- -- metric, and  
14    also, a lot of the data, and a lot of those  
15    things just simply don't exist with the rapid  
16    transformation of rate design in California,  
17    for example.

18           Q     Do you have an out-year end date by  
19     which this transition would need to occur?

20           A     We suggested that it should be  
21     complete by 2030, but we didn't posit that as  
22     a requirement in our proposal.

23           Q     Would you agree that the annual  
24     netting proposal involving existing NEM  
25     2.0-style treatment is a benefit to the  
26     customer relevant to a monthly or a daily  
27     netting?

28           WITNESS CHERNICK:  Yes.  That's -- it

1 winds up being a higher payment or a lower  
2 bill.

3 Q And you propose that this treatment  
4 be provided to all small businesses,  
5 regardless of whether they provide particular  
6 services to the community?

7 A Yes. The uptake by small  
8 businesses has been quite small, so we're not  
9 talking here about a program component that's  
10 likely to run amuck, and adding on a -- a  
11 layer of -- of further evaluation of the  
12 characteristics of the small businesses might  
13 very well make the -- the process so  
14 cumbersome that it would be impractical.

15 Q Are you proposing that when this  
16 transition occurs for all of the categories  
17 of customers you identify that customers  
18 would receive an exemption from the new  
19 treatment, if they were existing customers,  
20 or would you propose that existing customers  
21 be transitioned onto the new netting periods?

22 WITNESS WILSON: Would you restate that  
23 question, Mr. Freedman? I may have gotten it  
24 slightly twisted.

25 Q If an existing customer, under your  
26 proposal, receives the initial netting period  
27 you propose, and the Commission subsequently  
28 approves a transition to the shorter netting

1 periods, would that existing customer be  
2 required to take the shorter netting periods  
3 or would they retain some kind of legacy  
4 status under the initial netting period  
5 proposal?

6 A This is John Wilson speaking.

7 And they would retain the -- they  
8 would -- it would be the legacy status  
9 approach. I don't think we -- I think our  
10 testimony was silent on the length of time  
11 that that would be, and that would be at the  
12 Commission's discretion.

13 WITNESS CHERNICK: And one way of  
14 looking at that would be if the -- if the  
15 Commission finds that the annual netting is  
16 no longer necessary for disadvantaged  
17 communities or for small business, then  
18 because the -- the rates have been working  
19 out well enough so that it's highly  
20 advantageous to -- to adopt NEM-type  
21 metering, and therefore, switching customers  
22 over from annual to daily may not be  
23 excessively burdensome for them.

24 On the other hand, if what changes  
25 in the future is that the cost of new solar,  
26 to new storage falls dramatically, and  
27 therefore, the -- the program will continue  
28 running and continue growing, as required by

1 the legislation, even with the -- the daily  
2 netting, which is less favorable, then the  
3 customers who are locked into more expensive  
4 equipment might very well be kept on the  
5 annual netting for a period of time; but,  
6 that's something the Commission would have to  
7 decide when we get to that point.

8 Q Okay. Let's turn to page 34 of  
9 your testimony, direct testimony, and line 7  
10 through 10, you state that generation for --  
11 from NEM systems should not be subject to any  
12 departing load charges, although  
13 non-bypassable charges should continue to be  
14 applied to all grid-supplied power,  
15 irrespective of exported power used for  
16 netting credit. Do you see that?

17 A Yes.

18 WITNESS WILSON: Yes.

19 Q Does this -- does this mean that if  
20 a customer imports only ten percent of its  
21 consumption on a net basis from the grid, the  
22 customer would only pay non-bypassable  
23 charges on ten percent of its total  
24 consumption?

25 WITNESS CHERNICK: Not exactly. What  
26 it's saying is that if you -- that if a  
27 customer exports to the system in some of --  
28 some periods, and imports in other periods,



1     then the imports should include the  
2     non-bypassable charges, and should -- and the  
3     exports should not be netted against the --  
4     the -- the non-bypassable charges, or the  
5     non-bypassable charges should not be netted  
6     out. You can net out distribution, you can  
7     net out generation, but you can't net out the  
8     non-bypassable charges.

9             Q     In other words --

10            A     Is that a useful answer?

11                     (Crosstalk.)

12            WITNESS WILSON: Excuse me. This is  
13     John Wilson.

14                     I'd just also direct you to lines 3  
15     and 4 on page 34 where we say that this --  
16     this is one of the aspects where our proposal  
17     does not change the -- this element of NEM  
18     2.0.

19            Q     And in that respect, do you believe  
20     that the definition of non-bypassable charges  
21     should be limited to the definition that is  
22     included in the current NEM 2.0 tariff?

23            A     This is John Wilson.

24                     We're -- we're not recommending any  
25     changes to that definition, but if the  
26     Commission were to consider those, then, you  
27     know, we could take a position at that time.

28            Q     Would you agree that the current

1 NEM 2.0 tariff does not include all of the  
2 charges that are typically characterized as  
3 non-bypassable and separate charges on -- as  
4 part of the utility rate structure?

5 WITNESS CHERNICK: Mr. Freedman, I  
6 think you're asking us are there charges that  
7 are thought of as being non-bypassable for  
8 some purposes, but they are bypassable for  
9 the current NEM system. Is that what you --

10 Q I'm asking --

11 A You're asking us whether that's  
12 true?

13 Q Let me -- let me be more specific.

14 If the Commission adopts a new  
15 securitization non-bypassable charge related  
16 to the utilities' proposals for wildfire  
17 liability or whatnot, do you think it's  
18 reasonable to include that in the definition  
19 of non-bypassable charges that would be  
20 considered under the netting, or do you think  
21 the definition of non-bypassable charges  
22 should be static, based on the determination  
23 the Commission previously reached in the NEM  
24 2.0 proceeding?

25 A I don't see any reason why that  
26 determination needs to be frozen.

27 Q And you would agree, wouldn't you,  
28 that new non-bypassable charges might be

1       adopted by the Commission in future years?

2               A     Yes.  And that's one of the -- the  
3       kinds of considerations that caused us to  
4       avoid making any prediction as to in what  
5       year the transition from monthly to daily or  
6       annual to daily netting would be appropriate,  
7       because the size of the non-bypassable  
8       charges will affect the economics of -- of  
9       behind-the- -- the-meter solar and storage.

10              Q     So are you saying that, to the  
11       extent that there are larger non-bypassable  
12       charges in the future that might be netted as  
13       a result of the export compensation, that  
14       that could delay the transition to shorter  
15       netting periods?

16              A     The Commission might decide that  
17       that was appropriate.

18              Q     Do you --

19              WITNESS WILSON:  This is --

20              Q     Do you think it's appropriate?

21              A     This is John Wilson.

22                    Let me elaborate on that point,  
23       because one of the key aspects of our  
24       proposal is that we are trying to make sure  
25       that there's an adequate payback period to  
26       ensure the continued development of solar --  
27       behind-the-meter solar, consistent with the  
28       state's energy plans, and, you know, we did

1 an estimation that approximately a seven- to  
2 nine-year payback period is consistent with  
3 continuing that adoption rate. And so if the  
4 Commission were to adopt non-bypassable  
5 charges or make other changes to rates that  
6 would substantially affect that payback  
7 period, that would need to be taken into  
8 consideration in the application of some of  
9 these things like the netting periods.

10 Q Okay. On pages 35 and 36, at the  
11 bottom of page 35, you refer to a credit,  
12 on -- on line 24 of page 35, at the  
13 applicable full avoided cost rate for the TOU  
14 period.

15 Would -- do you mean something --  
16 when you say, "full avoided cost rate," do  
17 you mean something different than, for  
18 example, the ACC values that are being used  
19 in this proceeding?

20 A This is John Wilson.

21 We're committing to the use of the  
22 ACC for developing the avoided costs, yes.

23 Q So you're not proposing a different  
24 methodology when you refer to full avoided  
25 costs, are you?

26 A No. There's not -- well, we do  
27 make discussion -- we do discuss in our  
28 testimony that we think the Commission ought

1 to enhance the avoided costs, such as for  
2 resiliency. We don't have specific numbers  
3 that we proposed there. So at this time,  
4 without the benefit of that, or unless the  
5 Commission is able to reach a decision based  
6 on the full record of this proceeding on some  
7 values there, then it would be just the  
8 avoided cost calculator values. But, we  
9 would encourage the Commission to look beyond  
10 those values to resiliency and perhaps other  
11 measures that it would be able to quantify  
12 and view as appropriate. So if that were  
13 done, that's what we would mean by full  
14 avoided cost values in that context, similar  
15 to your comments about changes to the non- --  
16 non-bypassable charges. You know, that could  
17 be enhanced.

18 Q Do you think it's appropriate for  
19 the Commission to consider those adjustments  
20 that you've mentioned in the avoided cost  
21 calculator process itself?

22 A This is John Wilson.

23 I think that's a -- that's a good  
24 place for them to do it. It might also be  
25 appropriate for them to make policy  
26 determinations in this proceeding, and then  
27 resolve the quantities in the avoided cost  
28 calculator proceeding.

1           Q     Okay. Thank you. Let's -- let's  
2     move to page 48 of your direct testimony.  
3     And I want to compare some of the results you  
4     have in Table 8 on page 48 with the results  
5     in Table 9 on page 49.

6                     And if I understand the difference  
7     between these two tables is that you are  
8     looking at the year 2023 versus the year  
9     2030. Is that right?

10           WITNESS CHERNICK: That's correct.

11           Q     And all these analyses, do they use  
12     the 2021 ACC values or some other  
13     determination for avoided costs?

14           A     They use the 2021 ACC values.

15           Q     And how many years did you use for  
16     the analysis? Is it 20 or 25 years, or some  
17     other number?

18           WITNESS WILSON: This is John Wilson.

19                     And I don't recall the exact number.  
20     We did not alter the E3 modeling software in  
21     that respect. We have a section in our  
22     testimony that talks about the adjustments we  
23     did make, and that's not one of them.

24           Q     The -- the TRC values that you show  
25     for all the technologies under all scenarios  
26     increase between the 2023 and the 2030 runs.  
27     Why are they -- why are they increasing?

28           WITNESS CHERNICK: I -- I think one of

1 the factors is that the avoided costs tend to  
2 rise.

3 WITNESS WILSON: And I believe costs  
4 are declining. So it's -- those are pretty  
5 much the two elements of the TRC test.

6 Q And if I were to compare for PG&E,  
7 if I'm looking at the 2023 table, the -- the  
8 RIM score for the SBUA solar proposal versus  
9 NEM 2.0, and it shows the PG&E score is .2  
10 RIM for SBUA, and .11 for NEM 2.

11 What's driving the difference  
12 between the RIM scores between existing NEM  
13 and the SBUA solar proposal?

14 I think you're on mute --

15 ALJ HYMES: I believe you're on mute.

16 MR. FREEDMAN: -- Mr. Chernick.

17 WITNESS WILSON: While Mr. Chernick is  
18 working on this, I'll take a shot at that.

19 I think that that is the effect  
20 of -- I believe that -- well, I -- if you'll  
21 give me a second here to review this, I'm  
22 trying to remember whether this is the  
23 monthly netting or the daily netting  
24 analysis, because we performed both. And I  
25 apologize if that's not clearer here in the  
26 heading for that, so if you'll give me just a  
27 second to look at the residential summary,  
28 which is our Exhibit 4, and I will clarify

1     that.

2             WITNESS CHERNICK:   (Inaudible).

3             WITNESS WILSON:   So the RIM is .13  
4     there, and -- no, it's not the monthly to  
5     daily.

6             So Mr. Chernick, did you get your  
7     volume working?

8             Q     Well, let me ask this.  Maybe,  
9     Mr. Wilson, if you can help me with this one,  
10    the TRC scores you show here, am I to  
11    understand that, as a general matter, SBUA  
12    proposes calculating TRC based on a  
13    combination of -- of solar and  
14    solar-plus-storage installations on a  
15    portfolio basis?

16            A     That is our proposal, is that  
17    the -- that the -- that the Commission's  
18    perspective on the -- approving this program  
19    should be viewed on a total portfolio basis  
20    so that you should take the NEM  
21    solar-plus-storage results and -- or excuse  
22    me, the -- the -- the solar-plus-storage  
23    results for the -- for the successor tariff,  
24    and combine those with the solar, and  
25    interpolate that considering what the  
26    anticipated adoption rate is.  And again,  
27    that's one of the reasons that a lot of the  
28    precision in these numbers, I think, needs to



1 be viewed with a grain of salt, because  
2 you've got -- you know, as some of the other  
3 parties have pointed out, there are a limited  
4 number of customers who are on wind, there  
5 are many on solar, hopefully in the future,  
6 there will be many on solar-plus-storage, and  
7 just like energy efficiency programs are  
8 viewed on a portfolio basis, where you look  
9 at homes with all-electric and some homes  
10 that might have natural gas and some homes  
11 that might be on solar, you have -- you view  
12 the energy efficiency program on a portfolio  
13 basis, not on a specific customer fuel source  
14 basis. So --

15 Q Are --

16 A -- that's kind of why we're going  
17 after the portfolio view.

18 Does that get an answer to your  
19 question, Mr. Freedman?

20 Q Yes. But, specifically, the TRC  
21 values you calculate for standalone solar in  
22 these tables, does that include a portfolio  
23 assumption regarding a breakdown of solar and  
24 solar-plus-storage, or are these --

25 A No.

26 Q -- TRC values on a standalone  
27 basis?

28 A The TRC values are on a standalone

1 basis, for simplicity of comparison with  
2 other parties. And we don't have specific  
3 projections as to adoption rates of  
4 solar-plus-storage, so to -- to present a  
5 weighted average would be very speculative on  
6 our part. It's the Commission's job, I  
7 think, in the end to make such speculations.

8 But, what we would point to is,  
9 for -- for instance, in the 2020 -- or excuse  
10 me, in the 2030 results, Table 9, if you look  
11 at the SBUA solar-plus-storage for SDG&E, and  
12 it's 1.28, and then the SDG&E TRC, these are  
13 under current rate design assumptions, which  
14 I think would -- would -- would potentially  
15 be quite different in the future; but, if you  
16 sort of average those two together, you come  
17 out with roughly one. But, if  
18 solar-plus-storage was, say, 75 percent of  
19 the market by 2030, then the total number  
20 would be substantially higher than one; it  
21 would be somewhere around 1.15. So it really  
22 depends on, you know, what the market share  
23 is for solar-plus-storage versus solar as to  
24 what the portfolio number would come out to  
25 be.

26 MS. BERRIO HAYWARD: And your Honor,  
27 I'm sorry to interrupt. But, before we  
28 continue much further along in questioning,

1 I'm hoping that we can get Mr. Chernick  
2 back -- back on-line with us, because he may  
3 have some things to contribute to these  
4 answers.

5 ALJ HYMES: Let's go off the record.

6 (Off the record.) ]

7 ALJ HYMES: Let's be back on the  
8 record.

9 Mr. Freedman, please proceed.

10 MR. FREEDMAN: Thank you.

11 Q Prior to our interruption, I was  
12 asking about the TRC scores that you modeled.  
13 Mr. Wilson explained that -- am I correct  
14 that SBUA didn't model a specific mix of  
15 expected solar versus solar-plus-storage  
16 deployments that might result from your  
17 tariff proposal; is that correct?

18 WITNESS CHERNICK: That's correct. We  
19 used specific configurations for the two  
20 cases. You were asking, as I recall, about  
21 why the SBUA RIM was better than the NEM2  
22 RIM.

23 Q Yes.

24 A Was that your question? I think  
25 the major driving factor there is that under  
26 our proposal, the storage would be able to  
27 charge from the grid and, hence, avoid more  
28 on-peak energy.

1           Q    I was asking about the stand-alone  
2   solar RIM, Mr. Chernick.

3           WITNESS WILSON:  I can take that,  
4   Mr. Freedman.  This is John Wilson.  So the  
5   RIM is higher in the SBUA proposal because we  
6   have a NEM generation charge included in our  
7   proposal, and that would apply to the SBUA  
8   solar case but not to the NEM 2.0 solar.  
9   There may be other aspects of the proposal  
10  that are different that are also affecting  
11  that, but I believe that would be the single  
12  largest driver of that difference.

13          Q    If I turn to the RIM scores for  
14  2030 under the SBUA solar proposal, for PG&E  
15  at least it doesn't change at all.  Why is  
16  that?

17          A    There you have me.  I don't know.  
18  It could be just coincidence as to why it  
19  doesn't change it at all.  It's not  
20  surprising that it wouldn't change a lot  
21  because the rate structure is the same and  
22  everything is escalated together, you know,  
23  the NIM generation charge, I believe, follows  
24  the Joint IOUs' proposal.  In our modeling,  
25  we used that for illustrative purposes, and  
26  the other components also escalate.

27                So I think it's not surprising that  
28  they're similar, and I think just in the PG&E

1 case the reason that it's the same is just  
2 coincidence. If you look, for instance, at  
3 SCE, it's .03 difference, and there's other  
4 small differences as you go up and down the  
5 chart.

6 Q Turning to the TRC values, we  
7 discussed that the TRC values are lower in  
8 the 2023 modeling than in the 2030 deployment  
9 scenario. Does this suggest that more early  
10 deployment of particularly stand-alone solar  
11 compared to more later deployment would  
12 result in a lower overall TRC value?

13 WITNESS CHERNICK: Well, I guess if we  
14 could wait until costs fell because other  
15 states were increasing their solar  
16 penetration and wait until the avoided costs  
17 rose and then suddenly install all of the  
18 distributed solar that was needed, then that  
19 might be a less expensive strategy.

20 It's not necessarily a practical  
21 strategy, but it's something you run into  
22 with energy efficiency programs that they  
23 tend to be more cost effective in the later  
24 years, since avoided costs are usually rising  
25 faster than the costs of implementation, but  
26 it's not practical to wait and do everything  
27 at the last minute.

28 And in today's situation where we're

1 looking at the state scrambling to find  
2 5,000 megawatts of capacity for 2023, saying,  
3 well, let's slow down development of  
4 resources seems a little counterintuitive.

5 Q Do you think the capacity value of  
6 behind-the-meter resources should be included  
7 in the avoided cost calculator?

8 WITNESS WILSON: I believe they are,  
9 Mr. Freedman. The avoided cost calculator  
10 includes a capacity value, and I think our  
11 point is that -- our whole strategy is  
12 designed around the concept of shifting the  
13 program to emphasize solar-plus-storage as  
14 rapidly as possible, and that would address  
15 the capacity issues that Mr. Chernick was  
16 referring to.

17 Q Under a proposal where the  
18 Commission would look at a weighted TRC score  
19 that includes solar and solar-plus-storage as  
20 SBUA recommends, would this mean that a  
21 successor tariff that produces, for example,  
22 much better results for stand-alone solar  
23 rather than solar-plus-storage would produce  
24 a lower TRC value than a tariff that focused  
25 heavily on solar-plus-storage deployment as  
26 opposed to stand-alone solar?

27 WITNESS CHERNICK: I think I may be a  
28 little confused about what you mean by your

1 two case there. You're talking about a  
2 program that emphasized incentives and  
3 encouraged stand-alone solar versus one that  
4 emphasized solar and storage.

5 Q And let me ask the question a  
6 different way. Would a successor tariff that  
7 only resulted in solar-plus-storage adoption  
8 and no stand-alone solar at all produce the  
9 best TRC results under your analysis?

10 A The best ratio, yes.

11 Q The highest TRC scores under your  
12 proposal for how to calculate the TRC on a  
13 portfolio basis?

14 WITNESS WILSON: Yes. This is John  
15 Wilson. I think the distinction Mr. Chernick  
16 is making is between TRC ratio and the total  
17 resource cost value in terms of the net  
18 benefit to California in total dollars.

19 Q One more question on this. You  
20 have payback periods shown on both these  
21 tables. Are those simple paybacks or  
22 discounted paybacks?

23 A Simple. This is John Wilson.  
24 Simple.

25 Q Thank you. In Table 9 under the  
26 2030 scenario, the SBUA solar-plus-storage  
27 paybacks there look in the range of 3.5 to  
28 5.5 years or so, is that right, for the three

1 utilities?

2 A I'm sorry, which group are you  
3 referring to again, please?

4 Q SBUA solar-plus-storage 2030?

5 A Oh, thank you. Yes, that's  
6 correct.

7 Q Do you think a residential customer  
8 requires a 3.3 to 5.3 year payback in order  
9 to invest in the solar-plus-storage system?

10 A No, we don't.

11 WITNESS CHERNICK: Well, you'll get  
12 more people investing at something on the  
13 order of five years than you would at seven  
14 years, and we have a table that shows what  
15 the national data seems to imply about that.  
16 You would get a lot more.

17 Q How risky are these investments for  
18 a participating customer? What's the risk  
19 that they wouldn't recover their costs?

20 A Mr. Freedman, it sounds like you're  
21 arguing with somebody that they should invest  
22 in solar because it's a good deal and the  
23 fact that it may have looked like a good deal  
24 to me and may look like a good deal to you  
25 and they look like a fairly low-risk deal  
26 does not mean that they'll do it, at least  
27 not -- and by "they," I mean a particular  
28 person. So you'll get some people doing it



1 at a nine-year payback and more at a  
2 seven-year and more at a five-year, so the --

3 Q Okay. But, Mr. Chernick, my  
4 question was not the question you're  
5 answering. My question was how risky are  
6 these investments for the participating  
7 customer?

8 A I think objectively once you get  
9 down into the under-seven-year range, you're  
10 probably talking about fairly low risk. But,  
11 again, convincing a person who is making the  
12 decision, if that's the case, and making the  
13 decision not just to sign a check and invest  
14 money, but to go through the whole process of  
15 working with contractor and getting the work  
16 done --

17 Q Okay. I want to keep moving  
18 because we're running out of time here. For  
19 storage projects, did you incorporate  
20 existing rebates that are available to  
21 customers under the self-generation incentive  
22 program into your modeling?

23 WITNESS WILSON: No, we did not.

24 Q So neither under the 2023 or the  
25 2030 scenario?

26 A No.

27 Q Would you assume that the  
28 availability of those rebates would affect

1 the payback periods under the 2023 proposal?

2 A We would, and we're aware that  
3 those are limited. So that was, you know, by  
4 budget and so forth so that's why we didn't  
5 consider those.

6 Q Okay. In your rebuttal  
7 testimony -- just a couple more questions and  
8 I think we're done here -- page 8 at the very  
9 top you're discussing the RIM test, R-I-M  
10 test, and you say on line 1, end of that line  
11 on page 8, "the RIM test can be used to guide  
12 fine-tuning of rate design so long as the  
13 changes do not significantly decrease the TRC  
14 benefits."

15 How would the Commission determine  
16 whether fine-tuning of rate design would  
17 decrease or increase the TRC benefits?

18 WITNESS CHERNICK: Well, you want to  
19 look at whether the -- following the RIM test  
20 signals was leading you to make a program  
21 whether it's energy efficiency or NEM so  
22 unfavorable that participation drops and you  
23 lose the benefits.

24 Q But isn't your TRC test calculation  
25 driven really by the ratio of solar adoption  
26 versus solar-plus-storage adoption?

27 WITNESS WILSON: This is John Wilson.  
28 I think, again, here we're talking about the

1 difference between the total benefits and the  
2 ratios, so if the TRC score was, say, 4.0,  
3 but the participation rate was zero, then the  
4 total TRC benefits are zero because there's  
5 no participants.

6 So the Commission needs to balance  
7 the RIM score with the -- in our opinion --  
8 the payback period in order to ensure that  
9 you've got a reasonable payback period so  
10 that you continue to attract customers that  
11 are required into the NEM program to meet the  
12 State's goals for DER penetration.

13 And I think that's a significant  
14 part is interpreting those goals. But once  
15 you've made sure that you're going to have a  
16 program that's sufficiently attractive to  
17 attract those participants, then I think  
18 attending to the RIM score in a manner that  
19 reduces -- or increases the RIM score as much  
20 as possible due to the rate design is  
21 feasible.

22 Mr. Chernick, you may have some  
23 further clarifications there. I know I kind  
24 of walked through that a little muddily.

25 WITNESS CHERNICK: It sounded good to  
26 me.

27 Q But under your proposal, there's no  
28 difference between one customer or a hundred

1 thousand customers adopting under the TRC  
2 test; right? The TRC test doesn't  
3 distinguish between different levels of  
4 penetration for the same technology?

5 WITNESS WILSON: Again, you're mixing  
6 the score with the total benefits. So the  
7 ratio is the score, but the benefits are the  
8 benefits minus the costs. And so if you  
9 have, you know, a thousand dollars in  
10 benefits and a hundred dollars in costs,  
11 that's a \$900 net benefit, but if you have a  
12 hundred million dollars in benefits minus  
13 900,000 in costs, then, you know, you've got  
14 a much larger net benefit.

15 And that's what we're talking about  
16 there is that we want to drive the TRC ratio  
17 above 1, and then drive the benefits as high  
18 as possible so that the state benefits as  
19 much as possible from the program.

20 Q Okay. Let's move to page 29 and 30  
21 of your rebuttal testimony where you discuss  
22 the NEM generation charge.

23 A Sorry, could you repeat that.  
24 Which testimony do you want us in?

25 Q Rebuttal pages 29 to 30.

26 A Thank you.

27 Q And you're recommending that the  
28 Commission consider adopting a NEM charge

1 generation charge which might also be called  
2 a grid benefits charge; is that right?

3 A Yes, we're not fond of that term,  
4 but it is similar in structure to the grid  
5 benefits charge that other parties have  
6 proposed.

7 Q And you describe the different  
8 components of that structure or different  
9 components of the examination the Commission  
10 should perform on page 30. You have six  
11 items? Do you see that?

12 WITNESS CHERNICK: Yes.

13 Q And item one, you describe the  
14 scope as the change in transmission,  
15 distribution, and generation costs associated  
16 with a customer who's served by NEM  
17 generation versus a nonNEM customer; right?

18 A Yes.

19 Q Do you believe that a fair method  
20 for assigning responsibility for embedded  
21 transmission, distribution, and generation  
22 costs should also be considered?

23 A Embedded generation costs are  
24 generally allocated for these things based on  
25 usage, on consumption, on the amount --

26 Q What about for transmission and  
27 distribution?

28 A My answer would be the same.

1           Q    Meaning that you think that  
2   embedded costs should be excluded from the  
3   analysis?

4           A    No.

5           Q    Do you believe that in developing  
6   the generation charge, you identify changes  
7   in these costs, and I want to know whether  
8   you believe that embedded costs are also  
9   something that could be considered?

10          A    We did not mean to indicate by  
11   change that we were talking about a marginal  
12   cost allocation. You can certainly start  
13   with embedded costs, allocate those based on  
14   billing determinants, coincident peak, and  
15   feeder peak, and energy use by time period  
16   and so on, and come up with an allocation.

17                If a NEM generator is imposing  
18   transmission and distribution or their fair  
19   share of the allocated transmission and  
20   distribution costs are very similar to a  
21   customer without behind-the-meter generation,  
22   then they need to somehow pay something extra  
23   such as through a generation charge for  
24   equity purposes. On the other hand --

25          Q    Okay.

26          A    -- if it's basically whatever you  
27   use, whether it's your usage or your usage  
28   after NEM, your costs would be allocated the

1 same way, then there's no need for an  
2 additional charge.

3 Q Okay. Thank you. Those are all my  
4 questions.

5 ALJ HYMES: Any redirect?

6 MS. HAYWARD: May I have a moment with  
7 the panel, please, your Honor?

8 ALJ HYMES: Yes. We'll be off the  
9 record.

10 (Off the record.)

11 ALJ HYMES: We'll be back on the  
12 record.

13 MS. HAYWARD: Thank you, your Honor.  
14 We have no redirect at this time.

15 ALJ HYMES: Okay. Thank you. At this  
16 time, Mr. Chernick and Mr. Wilson, you are  
17 both dismissed. Thank you.

18 At this time I want to take an hour  
19 lunch. Everyone, please be back at 2:25 and  
20 we'll begin the examination and  
21 cross-examination of witness Chhabra. We'll  
22 be off the record.

23 (Off the record.)

24 (Whereupon, at the hour of 1:25 p.m.  
25 a recess was taken until 2:25 p.m.) ]

26 \* \* \* \* \*

27

28

1 AFTERNOON SESSION - 2:25 P.M.

2 \* \* \* \* \*

3 ALJ HYMES: With that, we will be on  
4 the record.

5 And Mr. Lindh, you may proceed.

6 MR. LINDH: Thank you, Judge Hymes.  
7 This is Frank Lindh for Natural Resources  
8 Defense Council. We call Mohit Chhabra to  
9 the stand, please.

10 MOHIT CHHABRA, called as a witness  
11 by Natural Resources Defense Council,  
12 having previously attested, testified  
13 as follows:

13 DIRECT EXAMINATION

14 BY MR. LINDH:

15 Q Good afternoon, Mr. Chhabra. Could  
16 you please state and spell your name for the  
17 record.

18 A Mohit Chhabra, M-o-h-i-t,  
19 C-h-h-a-b-r-a.

20 Q Thank you, Mr. Chhabra. Please  
21 state your position with the Natural  
22 Resources Defense Council.

23 A I am a senior scientist with the  
24 NRDC.

25 Q Thank you. Are you sponsoring what  
26 has been marked as Exhibit NRD-01, the  
27 Opening Testimony of Mohit Chhabra for the  
28 Natural Resources Defense Council, dated



1 June 30, 2021?

2 A Yes, I am.

3 Q Thank you. Mr. Chhabra, are you  
4 also sponsoring what has been marked as  
5 Exhibit NRD-02, the Rebuttal Testimony of  
6 NRDC, dated July 16, 2021?

7 A Yes, I am.

8 Q Mr. Chhabra, were both of these  
9 documents prepared by you or under your  
10 direction?

11 A Yes, they were.

12 Q Are the factual statements  
13 contained in these two documents true and  
14 correct to the best of your knowledge and  
15 belief?

16 A Yes.

17 Q Do the opinions expressed in these  
18 documents reflect your best professional  
19 judgment?

20 A Yes, they do.

21 Q Thank you. Do you have any  
22 corrections to make to either of these  
23 documents?

24 A No, I do not.

25 Q Thank you, Mr. Chhabra.

26 Your Honor, Mr. Chhabra now is  
27 available for cross-examination. Thank you.

28 ALJ HYMES: Thank you. And first up is

1 Mr. Lindl, from CALSSA.

2 MR. LINDL: Thank you, your Honor.

3 CROSS-EXAMINATION

4 BY MR. LINDL:

5 Q Good afternoon, Mr. Chhabra. My  
6 name is Tim Lindl. I'm the attorney for the  
7 California Solar and Storage Association in  
8 this proceeding. It's nice to see you again.

9 A Good afternoon.

10 Q Do you have Exhibits NRD-01 and  
11 NRD-02 before you today?

12 A Yes, I do.

13 Q And do you have exhibits that have  
14 been premarked CSA-29, 30, 31, 32, and 34  
15 before you today?

16 A Yes, I do.

17 Q And did you have a chance to review  
18 those exhibits prior to your testimony today?

19 A I did.

20 Q All right. Thank you. I believe I  
21 sent this in the e-mail, but I just want to  
22 double check that you would have CALSSA  
23 opening and direct as well, which is CSA-01  
24 and CSA-02?

25 A Yes, I do.

26 Q Okay. Thank you very much. Can we  
27 please start on your direct testimony,  
28 NRD-01, at page 15. Let me know when you're

1       there.

2               A     I'm here.

3               Q     And at the bottom of this page and  
4       going on to the next page, you provide three  
5       bullets describing your export compensation  
6       rate proposal; correct?

7               A     That is right.

8               Q     The first bullet suggests using a  
9       three-year average of avoided costs; correct?

10              A     That is correct.

11              Q     All right. At line 13 you state,  
12       "Develop export rate for each hour"; right?

13              A     Yes.

14              Q     Okay. So there would be 8,760  
15       different export rates over the course of the  
16       year under NRDC's proposal; correct?

17              A     That is right.

18              Q     Now, NRDC did not include any  
19       illustrative export rate as part of its  
20       testimony; right?

21              A     NRDC did not. It merely provided  
22       that methodology.

23              Q     Okay. Thank you. Do you know what  
24       the range of exports might be, say, for a  
25       PG&E customer over those 8,760 hours?

26              A     I don't remember the exact range,  
27       but I think the average weighted with a solar  
28       profile would be around 5 cents.

1 Q Thank you.

2 A Yes.

3 Q In the next bullet, which is  
4 actually at the top of page 16, you state,  
5 "The export rates should be updated every two  
6 years"; right?

7 A That is right.

8 Q All right. Do you propose a  
9 process for doing so in your testimony?

10 A Yes. We propose to set the export  
11 rates of the avoided cost calculator, so when  
12 the avoided cost calculator is updated every  
13 two years, that would then give you updated  
14 export rates. But it's merely, you know,  
15 being on track with what's most recent.

16 Q Would that be an advice letter  
17 filing?

18 A The avoided costs determined  
19 through the relevant proceeding would  
20 determine the avoided cost and, if needed, an  
21 advice letter could be used. We haven't  
22 thought that through. It's basically -- what  
23 needs to be done is to align the values with  
24 the latest avoided cost value. So whatever  
25 procedural what needs to be done, you know,  
26 that would need to be done, yes.

27 Q Okay. And you do not provide any  
28 further detail on the export compensation

1 rates within this testimony; right?

2 A Just that they would be locked for  
3 10 years for the customers on adoption. And  
4 at the end of the 10-year period, they would  
5 be locked in for 10 more years to the most  
6 recent decided, you know, export rates  
7 determined from the avoided cost calculator.

8 Q Right. And this is that third  
9 bullet on 16; right?

10 A Yes.

11 Q Okay. And your proposal for the  
12 rate structure NEM customers would be  
13 required to go on is on pages 16 to 17;  
14 right?

15 A Let me get there. Yes.

16 Q And on the bottom of page 16,  
17 lines 20 to 21, you've explained, "the rates  
18 NRD requested E3 use to calculate the cost  
19 effectiveness of NRDC's proposal"; right?

20 A Right.

21 Q On the next page, you state that  
22 NRDC is open to other TOU rate structures;  
23 right?

24 A Yes. And the intent of our  
25 proposal, as we've explained in a couple of  
26 different places, is that the differential in  
27 the TOU consumption needs to be aligned with  
28 encouraging electrification and such and grid

1 needs, yeah.

2 Q Do you provide any further detail  
3 in your testimony on the consumption rates  
4 customers would use under NRDC's proposal  
5 beyond these few sentences here?

6 A No. We basically say that we  
7 support time-of-use rates for consumption.  
8 On lines 20 and 21 of page 16 are  
9 illustrative rates that we'd be supportive  
10 of.

11 Q Okay. And on page 18 --

12 A Yes.

13 Q I'm looking at lines 11 to 13.

14 A Uh-huh.

15 Q There you explain how you asked E3  
16 to model Cal Advocates' proposal as NRDC's  
17 solar fee proposal for E3's cost  
18 effectiveness analysis; right?

19 A Yes, sir.

20 Q All right. So is it fair to say  
21 that any of the advantages or drawbacks from  
22 Cal Advocates' solar fee proposal would apply  
23 to NRDC's proposal as well?

24 A I'd say that any advantages or  
25 drawbacks of having a demand-based charge  
26 like a grid benefit charge would apply here,  
27 and we basic -- yeah, that's what I would  
28 say.

1 Q Okay. So your proposal is the same  
2 as Cal Advocates' proposal for the --

3           A     It is not the same.  Our  
4     proposal -- we wanted to include a grid  
5     benefit charge to add minimum recoup fixed  
6     costs of transmission and distribution.  We  
7     didn't estimate those values.  And in my best  
8     judgment, I thought that Public Advocates  
9     Office proposal managed the values aligned  
10    with our intent.  1

11	Q	Okay. Thank you.
----	---	------------------

12	A Right.
----	----------

13 Q Okay. At the bottom of page 18 and  
14 the top of page 19, you suggest that NRDC  
15 also open to a minimum bill instead of a  
16 solar fee; right?

17           A     We are open to it as long as it  
18     recoups a customer's cost of service and it's  
19     progressive.

20 Q And do you provide any further  
21 detail in your testimony on the mechanics of  
22 NRDC's proposed solar fees beyond your  
23 answers to Q-20 here?

24           A     We don't have a solar fee.  Are you  
25     representing -- referencing the Grid Benefits  
26     Charge?

27	Q	Yeah.
----	---	-------

28           A    Okay.  No.  We explain that what's

1 important, because our proposal is  
2 conceptual, is that a Grid Benefits Charge be  
3 included that at minimum recovers cost of  
4 transmission distribution and provides an  
5 illustrative value. That's about it.

6 Q Okay. Would mind please turning to  
7 page 20, lines 25 to 30?

8 A Yes.

9 Q Okay. And on -- in the middle of  
10 this paragraph, line 28, you state:

11 NRDC does not propose a specific  
12 method to calculate nonbypassable  
13 charges.

14 Right?

15 A That's right.

16 Q But you do reserve the right to  
17 support others' calculation of nonbypassable  
18 charges; right?

19 A That is right.

20 Q Do you agree that Cal Advocates'  
21 proposal for its solar fee to Grid Benefit  
22 Charge purports to include nonbypassable  
23 charges within the calculation?

24 A It includes a couple of  
25 nonbypassable charges, not all.

26 Q Okay. So at this point in time, do  
27 you support Cal Advocates' proposal for  
28 including nonbypassable charges in the solar



1 fee, the Grid Benefits Charge?

2 A My first preference is that  
3 nonbypassable charges be recovered on the  
4 basis of an estimate of consumption. And  
5 we'd be okay with what the Public Advocates  
6 have done, you know, that would still recover  
7 enough costs. But that wouldn't be my first  
8 preference, no.

9 Q Okay. But E3's modeling that was  
10 done did model --

11 A Mh-hm.

12 Q -- based on Cal Advocates'  
13 approach. Is it fair to say that your  
14 preference is not reflected in their cost  
15 effectiveness results that they ran?

16 A I see what you're getting at, sir.  
17 No, I don't think so and here is why. Our  
18 proposal -- the main point in our proposal is  
19 that any successor tariff needs to have a  
20 Grid Benefits Charge that at minimum recoups  
21 transmission distribution.

22 And the way to look at the GBC is  
23 if -- it's a lot easier to understand the  
24 range with the bottom end of the range being  
25 transmission and distribution recovery and  
26 the upper end being something like what the  
27 utility has done where they look at the  
28 avoided cost and they try to back out.

1           And it's -- we didn't have the  
2 resources to crunch numbers to determine the  
3 exact value between that range. But the  
4 Public Advocates' estimate falls within that  
5 range. And we thought it would be good as an  
6 illustrative calculation of what a proposal  
7 like that -- like ours would show.

8           Q    Okay. But the cost effectiveness  
9 results in that report currently don't  
10 include your preference, which I think was on  
11 one side of that range; right?

12          A    I would say it does -- it's  
13 illustrative of our preference.

14          Q    Okay.

15          A    Because it falls within that range,  
16 sir. You know, if you add the nonbypassable  
17 charges to just T&D costs, which is the  
18 bottom end of the range like the Public  
19 Advocates do, it falls within that range I  
20 just described to you.

21          Q    Okay. Can you please take a look  
22 at CSA-31. This is a screenshot from NRDC's  
23 data template for cost effectiveness model.

24          A    Yes.

25          Q    Okay. And you see the three values  
26 there \$4.59 for PG&E, \$6.33 for SCE, and  
27 \$7.00 for SDG&E?

28          A    Mh-hm.

1           Q    Okay.  So is that your proposal,  
2   those numbers?

3           A    That at that time were what the  
4   Public Advocates had proposed, and we asked  
5   E3 to conduct a calculation for the NRDC  
6   proposal with those numbers.

7           Q    Are those numbers now your proposal  
8   or no?

9           A    Those numbers are illustrative of  
10   our proposal.  We don't have a specific  
11   proposal for the Grid Benefits Charge.

12          Q    Okay.  So it's safe to say that at  
13   this point, there is no final proposal for  
14   NRDC's Grid Benefits Charge that has numbers  
15   associated with it?

16          A    It's fair to say that NRDC would be  
17   okay with the Grid Benefits Charge as long as  
18   it at minimum recovers transmission and  
19   distribution.

20          Q    Okay.  All right.  Can we go to  
21   page 19 of your direct, please, at line 3,  
22   there?

23          A    Yes, sir.

24          Q    All right.  And you state that a  
25   market transition credit is a critical part  
26   of the NRDC successor tariff; right?

27          A    Yes.

28          Q    Okay.  Did you ever provide in

1 testimony an illustrative example of the  
2 amount of the market transition credit NRDC  
3 is proposing?

4 A Similar. We provided the  
5 methodology by which an MTC could be set. We  
6 didn't provide an amount.

7 Q And that methodology is on page 19;  
8 right? With the four bullets listed there?

9 A Yes.

10 Q Okay. And your methodology for  
11 calculating the market transition credit  
12 relies on the calculation of a certain  
13 payback period of 10 years --

14 A Mh-hm.

15 Q -- with the market transition  
16 credit given to customers that would  
17 otherwise have a greater than 10-year payback  
18 period; right?

19 A Yes. We want the payback period to  
20 be 10 years. That's the goal we are seeking.

21 Q Okay. Thanks. And the way you  
22 calculate a cost recovery or payback period  
23 is you compare the upfront cost of the system  
24 with the benefits of that system. So that --

25 A Yes.

26 Q -- payback occurs when customers  
27 are no longer in the red on their investment?

28 A Sure. Payback is the -- period is

1 at the time in which you recoup all your  
2 costs of investment so far, yeah.

3 Q All right. So the elements of  
4 payback are cost of the system on one hand  
5 and bill savings of the system on the other  
6 hand; right?

7 A And any incentives you might get at  
8 the time of install.

9 Q Okay. Fair enough.

10 A Right. Yeah.

11 Q So let's talk about the cost  
12 component of that for just a second. Now,  
13 your testimony does not make a specific  
14 proposal on how to calculate the cost other  
15 than stating on lines 13 and 14 that:

16 It should be established using  
17 trusted data resources such as  
18 National Renewable Energy Labs  
19 data.

20 Right?

21 A Yes.

22 Q Okay. If the Commission adopted  
23 NRDC's proposal then, it would not be  
24 adopting a specific methodology for  
25 determining average system installation  
26 costs; right?

27 A It would -- it would have to  
28 determine that, yes.

1           Q    Okay.  Is Lawrence Berkeley  
2   National Labs a source for trusted data?

3           A    Generally.  But I would still look  
4   at the work they do.

5           Q    Okay.  And going down just to the  
6   second half of the sentence here looking  
7   their on line 14 to 15 you state:

8                   Average system installation costs  
9                   for different customer categories  
10                  should --

11                I think you say "be."

12                   Should be adjusted to be forward  
13                   looking so that it accounts for  
14                   expected changes in installed cost  
15                   of these systems.

16                Right?

17           A    Right.  And because the market  
18   transition credit would be fixed in our  
19   proposed methodology for two to three years  
20   as the Commission deems fit, we provide the  
21   example.

22                   We think it's fair that the market  
23   transition credit be based on what you expect  
24   the solar system to cost within that period.  
25   So you're not under or overpaying people.  
26   You know, if certain costs are supposed to go  
27   up in a year or so, you want the market  
28   transition credit to account for that; right?

1 (Inaudible.)

2 Q What methodology did NRDC propose  
3 in its testimony to make that adjustment?

4 A No, we did not provide a  
5 methodology to make that adjustment, yeah.

6 Q Okay. Do you expect parties might  
7 disagree about how to make that adjustment?

8 A Possibly. But as in any process,  
9 the hope is once you establish doing it the  
10 first time, you update it accordingly.

11 Q All right. Given your experience  
12 in this docket so far, do you expect there  
13 might be controversy around what the quote  
14 "expected changes in installed costs of these  
15 systems would be"?

16 A Among the various issues being  
17 discussed in this docket, I would consider  
18 that should be the less controversial because  
19 of the amount of research that goes into  
20 solar panel cost.

21 So your is question that: Is the  
22 amount of discussion in this docket around  
23 net metering tariff illustrative of the  
24 amount of discussion we have, it is --

25 Q My question is have you seen the  
26 different groups of parties in this  
27 proceeding agree on anything to date in this  
28 case?

1           A     Yeah. And I would contend in my  
2     humble opinion that's because we, sort of --  
3     there's certain foundational aspects of the  
4     tariff that we don't agree on. The cost of  
5     solar panels and systems, there's so much  
6     research that goes into it, that seems a lot  
7     more surmountable, sir.

8           Q     Fair enough. All right. If NRDC's  
9     proposal was adopted, what would be the  
10    average system cost for standalone solar?

11          A     If NRDC's proposed methodology was  
12    adopted, the Commission would have to  
13    determine the average cost. And I think it  
14    would have to do that for most other  
15    proposals too. Even if it comes to assessing  
16    what someone's proposed; right? You have to  
17    consider that there might be some discussion  
18    there.

19          Q     So you don't agree that some  
20    parties have proposed using the Annual  
21    Technology Baseline cost, which I think is  
22    about \$2.34 per watt. And other parties have  
23    proposing -- have proposed other values that  
24    are higher than that that might reflect more  
25    of the costs a solar customer might pay?

26          A     I don't agree or disagree with  
27    that. I'm simply stating that these proposed  
28    -- that the Commission needs to -- if it were



1 to go down the road of an MTC, establish  
2 solar system cost and there's a process to  
3 that. Including such as what you explain  
4 working through these different estimates to  
5 see what's the right one, yeah.

6 Q And the same would be true of the  
7 average system cost for a storage paired  
8 solar system?

9 A I would expect so.

10 Q Okay. And does NRDC take a  
11 position on whether there would be different  
12 average system costs for different systems of  
13 different sizes -- or for systems with  
14 different sizes? Excuse me.

15 A That's the type of detail that  
16 would have to be given thought to where a  
17 system cost may not linearly follow. The  
18 installed cost might not be able to have a  
19 simple dollars per-kW across all the  
20 installed. But that's the exact thing that  
21 we'd have to think about together.

22 Q Okay. And on the other side of the  
23 equation for payback is bill savings, the  
24 customers' benefit. Has NRDC proposed in its  
25 testimony how to calculate bill savings for  
26 purposes of calculating the 10-year payback?

27 A Bill savings? I don't understand  
28 the question. Because in my opinion and

1 understanding, the bill savings that are  
2 being estimated for all proposals, say by the  
3 ACC calculation, are based on amount of  
4 consumption estimates without solar panel and  
5 the red and you put the tariff in with the  
6 delta is the bill savings. Is there  
7 something more you're looking for there?

8 Q Let me explain that to you with  
9 less technical terms and see if you agree  
10 with me. Would bill savings be the value of  
11 the avoided kilowatt-hour plus the value of  
12 any export?

13 A The bill savings would be -- what  
14 do you mean by "avoided kilowatt-hour"?

15 Q A kilowatt-hour that the customer  
16 instead of buying from the utility receives  
17 from its solar system?

18 A No. The bill savings would simply  
19 be -- because tariffs proposed by the PUC  
20 vary. That simple formula I don't think can  
21 be applied. You really have to look at  
22 estimated consumption from a home without a  
23 solar system. You add a solar system to that  
24 home, that's what a lot of these models do,  
25 and you apply the tariff. Because some of  
26 these include a Grid Benefits Charge. Some  
27 of them don't, which is why, you know, that  
28 that simple formula may not work. And the

1 difference between those two scenarios is the  
2 bill savings estimate.

3 Q Okay. Do you agree that in order  
4 to calculate bill savings, you need to  
5 estimate how much energy the system will  
6 produce?

7 A Yes.

8 Q Okay. And has NRDC proposed in its  
9 testimony a methodology for calculating the  
10 differences in the location, orientation,  
11 shading, and system design and components  
12 when determining how much energy a system  
13 would produce?

14 A No, we have not.

15 Q Has NRDC put forward the operating  
16 mode for storage that you would assume?

17 A No, we have not.

18 Q Okay. And how would you convert  
19 solar production and storage operation into  
20 bill savings?

21 A How would you convert solar? All  
22 bill savings estimates -- let's talk -- are  
23 you -- is the question about solar plus  
24 storage systems or both separately?

25 Q Solar plus storage.

26 A All right. So all estimates of  
27 solar plus storage as you charge and  
28 discharge pattern of the storage system, so

1 similar you look at a home's energy  
2 consumption without solar plus storage and  
3 the applicable tariff, so that gives you the  
4 baseline; then you model the solar and  
5 storage using PVWatts or something similar  
6 that all parties have been doing; grid a  
7 storage charge and discharge assumption, and  
8 there are many in front of the Commission to  
9 look at; and you apply the NEM 3.0 successor  
10 tariff to scenario B that I'm describing.  
11 And the delta between those two is the  
12 difference in bill payments and that is bill  
13 savings.

14 Q So you use PVWatts or something  
15 similar to help you understand those; is that  
16 right?

17 A That would be one way to do it.

18 Q Okay. All right. Would you mind  
19 looking back at page 19 and looking at lines  
20 22 to 23?

21 A Yes.

22 Q All right. There you state:

23 The market transition credit, MTC,  
24 will need to be updated in order  
25 to reflect changes in avoided cost  
26 and changes in the cost of going  
27 solar.

28 Correct?

1 (Phone interruption.)

2 A Yes. Changes in avoided cost. And  
3 a dog was barking. So I didn't get your  
4 second part.

5 ALJ HYMES: Let's go off the record.

6 (Off the record.)

7 ALJ HYMES: We'll be back on the  
8 record.

9 Please proceed.

10 MR. LINDL: Thank you, your Honor.

11 Q Do you want to repeat your last  
12 answer there? I actually didn't hear it. I  
13 can ask the question again.

14 A Could you ask the question again?  
15 I've forgotten it.

16 Q Sure. I was just confirming that  
17 your proposal would be for the market  
18 transition credit to be updated?

19 A And you have something else about,  
20 you know, some of other words there to  
21 comport with dot, dot, dot.

22 Q Yeah. To reflect -- I was trying  
23 to read what you were saying here.

24 A Yeah. Yeah. And --

25 Q To reflect the latest solar system  
26 costs and the latest avoided cost?

27 A Right. Because the system cost are  
28 changing. Avoided costs may change. And if

1 the Commission's giving incentives, it might  
2 want to vary it and note that the Commission  
3 might have policy reasons to change the MTC  
4 to give larger or smaller incentives for  
5 certain reasons. So that should be kept on  
6 the table.

7 Q And that would be changed for  
8 customers that had already gone solar under  
9 NRDC's proposal; right? Existing --

10 (Crosstalk.)

11 A No.

12 Q They would have their market  
13 transition credit? How long would they have  
14 that for?

15 A The market transition credit, sir,  
16 is a one-time incentive for installation. So  
17 say you're adopting solar and you need \$2,000  
18 to get the payback down to 10 years. You  
19 would get it at time of install.

20 Q What would be the process for  
21 updating the market transition credit?

22 A Once you've determined a Grid  
23 Benefits Charge and an avoided cost and you  
24 have a way of calculating bill savings, you  
25 can determine payback. And then the market  
26 transition credit gets the payback down to 10  
27 years.

28 So once all these things have been

1 established, you merely update the avoided  
2 cost values, the system cost, and you  
3 recalculate a market transition credit if  
4 need be.

5 Q I understand. I was -- that's the  
6 methodology. I was asking about the process.  
7 Like, is this another advice letter filing?  
8 How would parties and the Commission go about  
9 updating the market transition credit?

10 A Thank you for asking that. That's  
11 something I haven't thought through yet and  
12 put in my proposal.

13 Q Okay. In your rebuttal if we can  
14 go there just for a brief while NRD-02,  
15 page 15?

16 A Yes.

17 Q Okay. And at lines 19 to 21 you  
18 say:

19 Future MTC, market transition  
20 credit updates, will simply apply  
21 updated values such as avoided  
22 costs and distributed generation  
23 system install costs and use the  
24 methodology approved through this  
25 proceeding.

26 Right?

27 A Okay. Yeah. That's what it reads.

28 Q Do you believe that NRDC's

1 testimony at this point provides sufficient  
2 details to avoid controversy on updating the  
3 MTC going forward?

4 A NRDC's testimony is clear that  
5 there will be effort needed to develop a  
6 methodology. And once fully developed, it is  
7 easily updatable going forward.

8 Q Do you suspect that no party will  
9 seek to change the inputs necessary to  
10 calculate the market transition credit when  
11 it is recalculated every two years?

12 A I suspect nothing. I don't know.  
13 Like, that's the Commission's job to  
14 establish a process for updates. And that  
15 process could be designed to be simply  
16 updatable. I don't suspect much, no.

17 Q Do you agree that the process would  
18 likely be similar to the updates to the  
19 Avoided Cost Calculator that currently exists  
20 today where parties would be litigating an  
21 update to the system cost and benefits  
22 necessary to target a 10-year paybacks?

23 A I disagree with you there because  
24 -- I disagree with the question. I'd say no.  
25 Because the Avoided Cost Calculator is fairly  
26 complex. The MTC intends to use values from  
27 these complex processes. My hope is it would  
28 be more turnkey.



1           Q    Okay. All right. Can we look at  
2   Exhibit CSA-30 again, please?

3                   We haven't looked at this one yet.  
4   I'm sorry. But it is Exhibit CSA-30. This  
5   should be your response to CALSSA Data  
6   Request 7.04?

7           A    Sure. Yes, I'm there.

8           Q    Okay. In the response to the data  
9   request in the first sentence you state:

10                   NRDC did not conduct any  
11                   calculations to estimate the MTC.  
12                   Right?

13          A    That is right.

14          Q    Okay. And then can you please look  
15   again at CSA-31. This is that screenshot of  
16   the data template you sent to E3.

17          A    Okay.

18          Q    And in the box on the bottom on the  
19   right-hand side, you agree it states that:

20                   NRDC did not propose a specific  
21                   value for the upfront incentive.  
22                   We propose and kindly request E3  
23                   to estimate an upfront incentive  
24                   so that the average customer  
25                   achieves a payback of 10 years.

26          A    Sure, yes. That's what it says.

27          Q    Okay. All right. Then can we look  
28   at Exhibit CSA-32, please? And this should

1 be the pages from the updated cost  
2 effectiveness of NEM successor rate  
3 proposals?

4 A Yes.

5 Q All right. And could you please  
6 turn to page 31 in the lower right-hand  
7 corner, which would be I believe PDF page 9?

8 A Yep.

9 Q Okay. And under NRDC at the top  
10 there --

11 A Mh-hm.

12 Q -- do you agree that it says:

13 As requested by NRDC, E3  
14 calculated the upfront incentives  
15 necessary for each customer to  
16 reach a 10-year payback. If a  
17 payback less than 10 years was  
18 achieved without an upfront  
19 incentive per customer type, no  
20 upfront incentive was added to  
21 that customer type.

22 Is that right?

23 A Right. That is correct.

24 Q NRDC didn't pay E3 to do that work;  
25 right?

26 A NRDC did not pay E3 to do that  
27 work.

28 Q Okay. Did you review the E3 model

1 and its results for the NRDC proposal?

2 A I did review it.

3 Q And do you agree that the model  
4 results include a market transition credit  
5 for most customer categories?

6 A I don't remember offhand right now.  
7 NRDC's -- a lot of NRDC's tariffs, at least  
8 initially, came just under 10-year paybacks.  
9 So for those it didn't.

10 Q Did E3's report contain an  
11 illustrative dollar per kilowatt number for  
12 NRDC's market transition credit from the  
13 report itself?

14 A If it shows up somewhere you see it  
15 calculated with, then that would be  
16 illustrative.

17 Q Okay. Can we take another look at  
18 that same exhibit? And this time can we go  
19 to page 34? So the next page.

20 A Yes.

21 Q Okay. In the middle of the page  
22 are the payback periods for 2023 non-CARE  
23 residential solar; right?

24 A Yes.

25 Q And do you agree that those periods  
26 are 8.9, 8.0, 5.3, and none of those are 10  
27 years?

28 A So actually to correct you, sir. I

1 think this table is a little confusing. The  
2 paybacks are 9, 8.9, and 8.

3 It starts with PG&E; right? And  
4 goes --

5 Q Yeah.

6 A So they're bolder lines that give  
7 me different proposals.

8 Q I understand. Thank you for  
9 correcting me there. Yeah. So 9, 8.9, and  
10 8; is that right?

11 A Yeah. Right.

12 Q And none of those are 10; right?

13 A Those are just below 10, yeah.

14 Q Yeah. And then for 2023 non-CARE  
15 residential solar plus storage --

16 A What page do you want me to go to?

17 Q The next one, page 35.

18 A Okay. They're 7.9 through 6.6.

19 Q Right. And none of those are 10  
20 either; right?

21 A They don't reach 10, no.

22 Q Yeah. So so far no party,  
23 including NRDC and E3, have been able to  
24 articulate the market transition credit  
25 necessary for a 10-year payback period;  
26 right?

27 A I disagree. If the PUC were to  
28 adopt the market transition credit for NRDC

1 and were to adopt elements of the proposals  
2 from, say, TURN or the Joint IOUs or someone  
3 else that have -- or the PAO -- payback  
4 period longer than 10 years, they could apply  
5 that market transition credit to get the  
6 payback down to 10 years.

7 Q Right. But you specifically asked  
8 E3 for this number to be 10. And none of the  
9 numbers are 10; right?

10 A Sure.

11 Q So given that E3 couldn't get this  
12 right in this run, don't you think that  
13 updating this number every two years via  
14 something like an advice letter process could  
15 be pretty challenging?

16 A I see your point, sir. I don't  
17 think the way to frame it is E3 didn't get it  
18 right. It's, sort of, a "if statement." If  
19 the payback period comes out to be greater  
20 than 10 years, then the market transition  
21 credit kicks in. Else it doesn't.

22 And given the assumptions that E3  
23 used to model these, the payback period was  
24 never greater than 10 for the market  
25 transition credit for these did not kick in.

26 The idea is the proposal for a  
27 policy tool to provide an extra incentive if  
28 the Commission would so need and 10 year as

1 something to aim for. But without it, if  
2 it's below 10 years, we're all happy; right?

3 Q So but E3 states:

4 It calculated the upfront  
5 incentives necessary for each  
6 customer to reach a 10-year  
7 payback period.

8 But it didn't. None of these are  
9 10; right?

10 A Well, because the presumptions that  
11 E3 used left the payback period below 10  
12 years. So the MTC kicks in only when the  
13 payback period is greater than 10 years.

14 Q Okay.

15 A It's a tool to help us out.

16 Q Can you turn Exhibit CSA-30 now,  
17 please? Back to that discovery request.

18 A Sure.

19 Q All right.

20 A Yes.

21 Q All right. The last sentence of  
22 that states:

23 The inverter cost should be  
24 accounted for when evaluating cost  
25 effectiveness from the  
26 participant's point of view  
27 through the participant cost test  
28 when determining the payback.

1 Right?

2 A Yes.

3 Q And the question had asked: Please  
4 explain NRDC's understanding of the total  
5 cost of an inverter replacement; right?

6 A Right.

7 Q Okay. Do you know how much an  
8 inverter replacement cost is? ]

9 A It depends on the technology and  
10 the size. My guesstimate is upwards of \$400,  
11 depending on the size and technology.

12 Q Was that cost included in E3's  
13 calculation of the NRDC payback?

14 A So E3 used the National Renewable  
15 Energy Lab ATB. I forget what they stand for  
16 right now, because we've been talking about  
17 so many intense subjects. But, T&D are  
18 technology baseline, and that has a levelized  
19 up-front cost that are used from inverter  
20 change, is my best understanding --

21 Q Okay.

22 A -- cost. So that's included in the  
23 E3 analysis for every proposal, they  
24 developed that.

25 Q All right. Lastly, can we turn to  
26 Exhibit CSA-29, please? This is an NRDC blog  
27 post about rooftop solar in California is  
28 ready to take the next step.

1           A     Yes, I am there.

2           Q     All right. And would you mind,  
3 please, turning to -- I think it would be PDF  
4 page 4. It has the page 3 of 9 in the lower  
5 right-hand corner.

6           A     Yes.

7           Q     All right.

8           A     Okay.

9           Q     And in the paragraph on top, at the  
10 last sentence --

11          A     The -- you --

12               (Crosstalk.)

13          THE WITNESS: -- customers -- so I --  
14 here, NEM customers currently from NEM 2.0  
15 was (inaudible) would see a bill of around 10  
16 to \$20 a month --

17               (Reporter interruption.)

18          THE WITNESS: Hold on. I'm going to  
19 take my headset off and try again, and let me  
20 know if it's better, please.

21               Yes. So this is NEM customers --  
22 most NEM customers would see a total bill of  
23 around ten to \$20 a month.

24          BY MR. LINDL:

25          Q     Okay. Now, I didn't really ask you  
26 a question, but it's okay that you said that.

27               I just want to get right that the  
28 language in this sentence says, "Most NEM



1 customers see a total bill of around \$10 to  
2 \$20 a month." Right?

3 A Right.

4 Q And you don't say, "NEM 2  
5 customers" in that sentence. Correct?

6 A I do not.

7 Q And most of this article discusses  
8 the long history of NEM, implying that you  
9 are discussing more than just NEM 2  
10 customers. Right?

11 A That's right.

12 Q Okay. And does the word "most" in  
13 this -- what does the word "most" in this  
14 sentence mean?

15 A Well, my intent here was to show --  
16 and as was admitted, I was also trying to  
17 refer to NEM 2.0 customers, that most of  
18 them, I would say like close to a simple  
19 majority, pay minimal amounts in their  
20 monthly bills.

21 Q So about 50 percent is a simple  
22 majority. Right?

23 A Yeah. You could say it, yeah.  
24 Sure.

25 Q Okay. Would you mind turning to  
26 Exhibit CALSSA-01, CSA-01?

27 A Hold on. I'm there.

28 Q All right. And do you see Table 13

1 in the middle there?

2 A Table 13.

3 Q Or I'm sorry. I didn't give you a  
4 number.

5 A Uh-huh. Yeah.

6 Q It's page --

7 A Yeah, go ahead.

8 Q Page number 90.

9 A Page 90. And -- all right. I see.  
10 So you're showing me average -- I see what  
11 the confusion is, average bill or payment  
12 amounts. Correct?

13 Q Yeah.

14 A It's around \$58 to 46 or whatnot,  
15 yeah.

16 Q Okay. Let me ask you a question,  
17 first.

18 A Yeah.

19 Q So do you agree that this is  
20 entitled "Table 13. Residential Solar  
21 Customer Average Monthly Bill Payment," and  
22 then there's a footnote 143 there?

23 A Yes, I will agree.

24 Q And -- and do you agree that that  
25 footnote is to the Joint IOUs' response to  
26 CALSSA DR 7.01?

27 A I would agree with that, too.

28 Q Okay. And then do you agree that,

1 for NEM 1 customers, the average bill is  
2 between \$76 and \$104?

3 A The average bill across all NEM 1  
4 customers is that, correct.

5 Q And do you agree that the average  
6 bill for NEM 2 customers is between \$46 and  
7 \$118?

8 A That's right, sir.

9 Q All right. And so the average bill  
10 is much higher than the ten to \$20 for NEM  
11 customers that you state in this blog.  
12 Right?

13 A Yes. And if you give me a chance,  
14 when I developed that, I had referenced the  
15 lookback study to figure out what most NEM  
16 2.0 customers would pay. And CALSSA's  
17 testimony and the IOUs' rebuttal proved that  
18 that was a decent estimate for NEM 2.0  
19 customers. The difference here is you're  
20 looking at average across all customers; but,  
21 there's some really high customers that would  
22 skew it.

23 So, to give an example, I guess, if  
24 you look at the average income in the United  
25 States, it will be around 60 grand. But,  
26 that doesn't mean there's like a lot of  
27 people (inaudible) or very much, you know  
28 what I mean?

1           Q    Yeah, I get it.  Let's go to  
2   Exhibit CALSSA-02, then.

3           A    Exhibit CALSSA-02.  Actually, if I  
4   may, I'd like to show what I'm referencing  
5   to --

6           Q    You can.

7           A    -- in the CALSSA exhibit and the  
8   IOU rebuttal.

9           Q    You can.

10          A    Okay.

11          Q    Can you go to CALSSA-02, please?

12          A    CALSSA-02.  One second.  Let me  
13   open it.

14                   And that's the rebuttal testimony  
15   of Bradley Heavner and Joshua Plaisted.  
16   Right?

17          Q    That's right.  And I'm going to ask  
18   you to go pretty deep into that document,  
19   looking at PDF page 108.

20          A    Sure thing.  Yeah.

21          Q    When you get there, it should be  
22   within Attachment 8, and it's an IOU response  
23   to CALSSA data request 9.15.  Right?

24          A    Uh-huh.

25          Q    And there are two charts there.  
26   One shows the percentage of PG&E NEM 2  
27   customers by average payment --

28          A    Yes.

1           Q    -- and the second shows the  
2   Southern California Edison average monthly  
3   month -- bill payment for NEM residential  
4   customers. Right?

5           A    Correct.

6           Q    Okay. If you look at the PG&E bar  
7   or chart on top, can you go to the number --

8           A    Uh-huh.

9           Q    -- just -- just above 20, and you  
10   add up the bars that include 20, and to the  
11   left of it, would you agree you'd get  
12   somewhere between 40 and 45 percent?

13          A    Around that, sure.

14          Q    Okay. And then looking at the  
15   Edison chart, each of those bars is five. So  
16   if you go -- if you add up the values of the  
17   first four bars, to a degree, you would get  
18   somewhere between around 34 percent for  
19   Southern California Edison customers?

20          A    Yes.

21          Q    Okay. So do you agree that also at  
22   the bottom of Edison's chart it states it  
23   includes only 78 -- 97.8 of their NEM  
24   customers, with customers that average bills  
25   above 300 excluded?

26          A    Sure. And these are all NEM --  
27   NEM -- NEM 1.0 and 2.0. Right?

28          Q    I don't think so. I think these

1 are NEM 2.0 customers.

2 A So the PG&E chart says, "NEM 2.0."  
3 The SCE doesn't say that. It just says,  
4 "Average NEM customers," or NEM customers.

5 Q Okay. So if those customers that  
6 are excluded, per the text on the bottom of  
7 Southern California Edison's chart, were  
8 included, it would reduce --

9 A Uh-huh.

10 Q -- the number of customers paying  
11 less than \$20 by about 2.2 percent. Right?

12 A I couldn't tell you, you know, by  
13 staring at this chart, and I also again note  
14 that the (inaudible) customers according to  
15 the (inaudible).

16 Q Sure.

17 A Yeah.

18 Q All right. Well, let's go back to  
19 that, then. I was hoping we wouldn't have to  
20 go this far deep, but let's do it.

21 All right. Can you please open up  
22 Joint IOUs' Exhibit-01?

23 A Sure. It's open.

24 Q Okay. And if you go to page 69 --

25 A Of the PDF or the (inaudible)?

26 Q I'm sorry. I don't have the PDF  
27 number for this one. It's the page, page  
28 number 69, or if you search Figure roman

1 numeral 3-16, you -- you'd get there real  
2 quick.

3 A This is SDG&E NEM 2.0 average  
4 monthly payment, yes.

5 Q Right. Okay. And so for that --  
6 the name of that figure is Figure 3-16.  
7 Right?

8 A 3-16, sure. Yeah.

9 Q And it's on page 69?

10 A It's on page 69, yes.

11 Q Okay. Thanks. Can you please go  
12 back to CALSSA Exhibit 2, the data request  
13 response you were just looking at?

14 A Sorry. Can you repeat that, which  
15 one?

16 Q The data request response we were  
17 just looking at that is PDF page 108 in  
18 CALSSA Exhibit 2.

19 A Sure. I'm there.

20 Q Okay. So Figure 3-16 that we were  
21 just looking at talks about residential NEM  
22 2.0 average monthly payments.

23 Do you agree that the data request  
24 question that you're looking at right now  
25 asks for the utilities to reproduce that same  
26 chart for PG&E and SCE?

27 A Yes. Okay. So you're telling me  
28 that the SCE is NEM 2.0. All right.

1 Q Do you agree that that is NEM 2.0?

2 A If all of that is right, then, yes,  
3 you would be right.

4 Q Okay. Do you agree that 33 percent  
5 is less than most?

6 A Yes.

7 Q Okay. So do you agree that that  
8 statement in your blog is incorrect?

9 A Unclear, because you're looking at  
10 percentage of accounts across all the  
11 utilities, and then you have to multiply the  
12 total number of accounts in each exhibit.  
13 See? So if SDG&E accounts have a lot more,  
14 then you want to take that into account.

15 I will say that my blog estimate  
16 was a rough estimate based on the lookback  
17 study, and I provided you what that was based  
18 on, and it was -- yeah, that's -- that's what  
19 I have to say.

20 Q Right. But, percentage of accounts  
21 is all of the accounts. So if it's less than  
22 50 percent, that's the number of accounts on  
23 NEM 2. Right?

24 A But, if SDG&E has a million  
25 accounts, but SCE has a thousand accounts,  
26 the percentage applies -- you know, the  
27 multiplication would be different. So it's  
28 hard to say.



1           Q    Okay.  Let me ask you:  Which  
2   service territory among the three IOUs has  
3   the least number of customers?

4           A    You mean the least number of NEM  
5   customers, NEM 2.0 customers, or least amount  
6   of customers?

7           Q    Both.

8           A    I would say that I don't remember  
9   who has the least amount of total  
10  customers -- NEM customers, but San Diego has  
11  the least amount of total customers; but, it  
12  has the highest penetration of NEM customers.

13          Q    Great.  Would -- we got that, also,  
14  on the record.  We can -- we can move on  
15  here.  Okay.

16          A    Uh-huh.

17          Q    At what time did NRDC become a  
18  party to this proceeding, around what time?

19          A    I don't remember the exact date,  
20  but it would be -- like we were a party to  
21  the last proceeding, so I don't remember  
22  exact dates that we were formally a party to  
23  this.

24          Q    Would it be safe to say October of  
25  2020, when comments were due on the OIR for  
26  this case, around that time?

27          A    Sure.  Sure.  That would be safe, I  
28  guess.  Right.

1           Q   Between then and now, did you ever  
2 ask the IOUs what -- the average bills their  
3 NEM customers pay?

4           A   I used the lookback study, as I  
5 provided you in my data request, to estimate  
6 that. And then, no, I did not go and ask the  
7 IOUs again for that.

8           Q   All right. In your public outreach  
9 in support of NRDC's position in this case,  
10 and during NRDC's campaign to pass AB 1139,  
11 did you frequently refer to the idea that  
12 most NEM customers today pay ten to \$20 per  
13 month?

14          A   I did not do specific outreach for  
15 AB 1139, so I don't -- I don't agree with  
16 that acknowledgment, what that refers to.

17          Q   Okay. What about for NRDC's  
18 position in this case?

19          A   No, we did not use that estimate.  
20 That was just in that blog, and that's about  
21 it.

22          MR. LINDL: Okay. No further  
23 questions, your Honor.

24               Thank you, Mr. Chhabra.

25          THE WITNESS: Thank you.

26          ALJ HYMES: Mr. Lindh, any redirect?

27          MR. LINDH: Let me take a minute,  
28 please, with Mr. Chhabra, your Honor.

1 ALJ HYMES: Okay.

2 MR. LINDH: Thank you.

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

4 (Off the record.)

5 ALJ HYMES: We'll be back on the  
6 record.

7 UNIDENTIFIED SPEAKER: Hello?

8 MR. LINDH: Thank you, your Honor.

9 NRDC has no redirect. Thank you.

10 ALJ HYMES: Okay. Thank you.

11 Ms. Armstrong.

12 CROSS-EXAMINATION

13 BY MS. ARMSTRONG:

14 Q Okay. Good afternoon, Mr. Chhabra.  
15 My name is Jeanne Armstrong. I'm here on  
16 behalf of SEIA and Vote Solar. And Mr. Lindl  
17 asked a lot of the questions that I was going  
18 to ask, so fortunately for both of us, this  
19 can be -- this is going to be pretty brief.

20 First, I want to follow up on  
21 something you said in -- in response to an  
22 answer -- well, in an answer that you -- that  
23 you gave Mr. Lindl. You said -- well, I  
24 think you said that NRC's proposal is that a  
25 grid benefits charge would recover, at a  
26 minimum, transmission and distribution costs.  
27 Is that correct?

28 A Transmission and distribution cost

1 of service, yes.

2 Q Yes. You said, "at a minimum." So  
3 does that mean that NRDC is open to having  
4 additional costs recovered through a -- a  
5 grid benefits charge?

6 A The other compliment that exists is  
7 fixed cost of generation, and we don't have a  
8 position on it, as yet, and we are open to  
9 seeing any specific proposals. But, that is  
10 a trickier bet to figure out, you know, if  
11 NEM customers should -- should pay for that.  
12 So, for that, we -- you know, we're open to  
13 that.

14 Q Okay. If I could get you to turn  
15 to page 9 of your opening testimony, and in  
16 particular, line 16, can you tell me when  
17 you're there?

18 A Give me one moment.

19 Q Okay.

20 A Opening testimony, page 9, line 16.

21 Q Correct.

22 A Yes.

23 Q Okay. So there, you say, "Growth  
24 of distributed generation is guaranteed due  
25 to Title 24 requirements, and due to the"  
26 continuation -- "the continuance of  
27 low-income solar initiatives, such as the  
28 Solar on Multifamily Affordable Housing

1 program."

2 So do you know how many megawatts  
3 are anticipated to be installed through the  
4 Solar on Multifamily Affordable Housing  
5 program?

6 A I don't have the estimate with me  
7 right now.

8 Q Did you have the estimate in mind  
9 when you wrote this testimony?

10 A No. I know that the program  
11 exists. I know its contributions are small  
12 in the order of magnitude, but I don't -- you  
13 know, I don't remember, offhand, that.

14 Q Okay. Do you know how many  
15 megawatts, on average, are installed annually  
16 under either the MASH or SASH program?

17 A I don't remember, offhand. I  
18 usually, you know, reference DG Stat for  
19 that, but I don't remember that, offhand. I  
20 know that they are probably on the order of  
21 megawatts a year, not gigawatts.

22 Q Okay.

23 A Yeah.

24 Q And then looking at line 18 on that  
25 same page, you say, "The CEC, on evaluating  
26 rooftop solar for Title 24 estimated that the  
27 state would see approximately 74,000 new  
28 homes with solar in 2020."

1           Do you know how many megawatts --  
2   you say, "74,000 new homes." Do you -- do  
3   you know how many megawatts that translates  
4   to?

5           A    If I were to assume five-kilowatt  
6   system per home, then that -- that would  
7   translate to approximately 370 megawatts per  
8   year, approximately, of course, because I'm  
9   doing this as -- as we speak.

10          Q    Well, would you take, subject to  
11   check, that the CEC used 2kW AC systems  
12   required for energy efficiency homes, energy  
13   efficient homes?

14          A    And if that would be the case, then  
15   it would be 148 megawatts a year, yeah.

16          Q    All right. Thank you. Are you  
17   aware that the -- that the new home solar  
18   mandate is subject to a -- a  
19   cost-effectiveness test?

20          A    I am aware, but it's not clear to  
21   me that -- what the bar for passing it is in  
22   terms of cost-effectiveness from whose  
23   perspective, the customer's, the system's or  
24   both.

25          Q    So did you look at the study that  
26   the CEC had done by E3 to assess the  
27   cost-effectiveness of the solar mandate  
28   program?

1           A     They -- I did look at it. They ran  
2 various scenarios. One of it was to set the  
3 earnings at avoided cost, and in that extreme  
4 scenario, which was, I guess, in the proposal  
5 the Commission received and that E3  
6 evaluated, it -- the shared proposal that's  
7 right up top, you know, with the 26-year  
8 payback, in that extreme scenario, it would  
9 narrowly fail some kind of loans, and  
10 narrowly pass the rest.

11           Q     Do you know what avoided costs the  
12 CEC used in that analysis?

13           A     2019 is my memory, avoided costs.

14           Q     I mean do you remember the actual  
15 number, like the actual cents?

16           A     My memory is that the 2018 and 2019  
17 avoided costs in first year averaged to  
18 around five to six cents a kilowatt-hour, is  
19 my best memory, which is similar to the 2021.

20           Q     Well, would you take, subject to --  
21 would you take, subject to check, that it was  
22 actually 11 cents?

23           A     Are you talk -- this is my  
24 (inaudible) of first year. Is that for the  
25 levelized number, you're giving me, or --

26           Q     I'm taking the -- I'm talking about  
27 the number that the CEC used in its analysis,  
28 in its cost-effectiveness analysis in 2019.

1           A    So suffice to say that you're  
2   saying the CEC is 11 cents, and my  
3   understanding is that 11 cents were -- would  
4   likely be a levelized. Could you confirm  
5   that to me, your quoting that number?

6           Q    Okay. Well, I can't do that now.  
7                But, are you --

8           A    Uh-huh.

9           Q    -- aware that -- I said I'm not  
10   able to do that now.

11          A    Okay.

12          Q    It's on -- it's on the record, so  
13   we can -- we can do that --

14          A    Yeah.

15          Q    -- another way.

16                And you are aware that the CEC  
17   is -- is statutorily obligated to update  
18   the -- its standards periodically, and make  
19   any revisions it -- it deems necessary?

20          A    Yes. And I'd like to say this to  
21   that, because --

22          Q    No. That's -- that's just -- you  
23   are aware that --

24          MR. LINDH: Your Honor, I would like --  
25   I'd request that Ms. Armstrong --

26                (Crosstalk.)

27          MS. ARMSTRONG: I asked him a "Yes" or  
28   "No" answer. I asked him a "Yes" or "No"



1 question.

2 (Crosstalk.)

3 MS. ARMSTRONG: If you'd like to ask  
4 him --

5 ALJ HYMES: Sustained.

6 THE WITNESS: Go ahead. Yeah.

7 MR. LINDH: Thank you, your Honor.

8 MS. ARMSTRONG: Okay. And -- okay.  
9 I'll move off of that.

10 Q I understand that your proposal is  
11 for a -- a market transition credit to reach  
12 an approximate ten-year payback. Is that  
13 correct?

14 A If the payback without a market  
15 transition credit is greater than ten years,  
16 then the market transition credit kicks in to  
17 make sure that the payback is at least ten  
18 years, yes --

19 Q So --

20 A -- for non-low-income customers,  
21 yes.

22 Q Okay. Let me -- so your market  
23 transition credit is only applicable to  
24 low-income customers?

25 A Non-low-income. For low-income, we  
26 have a separate -- okay.

27 Q Okay. That's what I thought.

28 And so you think a ten-year is a

1 reasonable payback period to sustain the DG  
2 market?

3 A In my opinion, ten years is a  
4 reasonable payback period, considering that  
5 these systems last for 30 years, yes.

6 Q Okay. And then you went through a  
7 lot of questions with Mr. Lindl about the MTC  
8 and how it would be calculated. I'm not  
9 going to go back through that.

10 But, I take it, then, that you have  
11 not even done a back-of-the-envelope estimate  
12 of the total amount of the subsidy on an  
13 annual basis. And when I say, "total," I  
14 mean, you know, if you -- let's say you have  
15 100,000 customers that would be eligible for  
16 the MTC, what the total amount of the subsidy  
17 would be. Do you have any idea?

18 A All I know is it would be less than  
19 the existing subsidy, by a large magnitude.

20 Q And how do you know that?

21 A Because the payback period for the  
22 current NEM is around five years, so that  
23 tells you that you're paying customers more,  
24 and then you keep paying them that for the  
25 lifetime of the system. So that amount of  
26 over-subsidy compound within a market  
27 transition credit that's a one-time payment  
28 for ten years only, and then you pay close to

1     what you would consider the fair amount.

2     This would be a small fraction.

3             Q     Okay. But, you don't have any idea  
4     of what that would be on the annual basis,  
5     total?

6             A     It would depend on the avoided --  
7     on the export rate and GBP that the  
8     Commission develops, right, which is why it's  
9     hard to estimate.

10            Q     Okay. And -- and would the MTC be  
11    funded by ratepayers?

12            A     It would be funded by ratepayers,  
13    but if a Commission gets a better source, we  
14    prefer that. We recognize that currently  
15    Commission doesn't have authority, yes.

16            Q     Okay. And do you -- I mean how  
17    would a customer access -- access that money,  
18    how would they know that they're eligible for  
19    an MTC?

20            A     Commission ran many programs that  
21    offered incentives distributed either through  
22    the utility or third-party providers, and I  
23    would expect something similar to happen  
24    here.

25            Q     Okay. And if a customer is awarded  
26    an MTC to get their payback period down to  
27    ten years, as an -- you would -- would you  
28    agree that would be the incentive to install

1 solar?

2 A Would you please repeat that,  
3 please?

4 Q Is your MTC -- do you consider it  
5 an -- an incentive for customers to install  
6 solar?

7 A Yes, ma'am.

8 Q Okay. So if you get an MTC, and  
9 you get your payback down to ten years, what  
10 is your additional savings? Have you  
11 calculated that under -- you know, if you're  
12 under a NEM tariff for 20 years, have you  
13 calculated the additional savings that the  
14 customer would get under the tariff?

15 A Do you mean the expected bill  
16 savings?

17 Q Yes.

18 A So E3 estimated that for a proposal  
19 that would be like ours. Right? And -- and  
20 the answer's in there. But, I would -- it  
21 would be exposed to the avoided cost plus  
22 some savings on self consumption, because,  
23 under the NRDC model that we -- under the --  
24 the NRDC proposal that E3 modeled had, you  
25 know, a small grid benefit charge, so there  
26 would be some savings there, as well.

27 Q I'm sorry. You're --

28 (Crosstalk.)

1           THE WITNESS: I guess I'm saying that  
2   it's publicly available in -- in -- in that  
3   Excel spreadsheet and document. I don't  
4   remember, offhand.

5   BY MS. ARMSTRONG:

6           Q    Okay. I just -- one more question.  
7                When you say a small benefit -- a  
8   small grid benefits charge, so there would be  
9   some savings there, as well, isn't the grid  
10  benefits charge a charge? So what's the  
11  savings? ]

12          A    So if you look at the IOUs'  
13  proposal, for example, which calculates the  
14  grid benefits charge by backing out from the  
15  avoided costs, or the CARE proposal that's  
16  all avoided costs, those have much longer  
17  payback tiers than something, say, the Public  
18  Advocates or NRDC proposes, and that is  
19  because relatively the grid benefit charge is  
20  smaller than, say, what the IOUs propose.

21                So, you know, that delta -- because  
22  the IOUs' proposal is meant to be what if you  
23  didn't have -- what if all solar was valued  
24  at avoided costs, you know, what would we  
25  get? The fact that our payback tier is less  
26  clearly means that our tariff values solar at  
27  more than avoided costs on average because --  
28  and that's because of that confidence is

1       there.  Yeah.

2               Q     So just to be clear, when you say  
3     the smaller grid benefits charge would be a  
4     savings, it would be a savings in comparison  
5     to, say, the IOUs' proposal?

6               A     It would be two savings in two  
7     ways.  Customer on a NEM tariff that aligns  
8     with NRDC's proposal would save compared to  
9     not having solar panels and not having that  
10    tariff, and they would also save more  
11    compared to them being on the IOU proposal.

12              Q     Thank you.  Those are the questions  
13    I have.

14              ALJ HYMES:  Any redirect, Mr. Lindh?

15              MR. LINDH:  No, your Honor.

16              ALJ HYMES:  Okay.  Thank you.

17                     Mr. Boyd?

18              MR. BOYD:  Yes, your Honor.

19              ALJ HYMES:  I believe you have 10  
20    minutes of questioning?

21              MR. BOYD:  Yes, your Honor.

22              ALJ HYMES:  Please proceed.

23                             CROSS-EXAMINATION

24    BY MR. BOYD:

25              Q     Hello, Mohit.  My name is Michael  
26    Boyd.  I'm representing myself and  
27    Californians for Renewable Energy, CARE.  
28    Would you please turn to page 8 of your

1 direct testimony.

2 A Yes, I'm there.

3 Q Okay. I'm going to ask you some  
4 questions about the Ratepayer Impact Measure  
5 Test, which is acronym R-I-M, which I'm just  
6 going to call "RIM" so that we don't have to  
7 say it all each time. I'm starting at  
8 line 9. It says:

9 The RIM is the ratio of, (1)  
10 benefits a distributed generation  
11 facility provides to all customers  
12 and (2) the payments made by  
13 nonparticipants to NEM customers.

14 So my first question is about the  
15 "benefits of a distributed facility provides  
16 to all customers." By that, do you mean  
17 their wholesale export of power?

18 A No. I mean valuing them at the  
19 avoided costs.

20 Q When you say "avoided costs," are  
21 you referring to Public Utility Regulatory  
22 Policy Act, PURPA, avoided costs or avoided  
23 costs as determined by the avoided cost  
24 calculator?

25 A The avoided cost as determined by  
26 the California Public Utilities Commission in  
27 the avoided cost calculator.

28 Q Thank you.

1           A    Yeah.

2           Q    The second one is "the payments  
3   made by nonparticipants to NEM customers."  
4   You're talking about the payments that retail  
5   customers are paying for benefits to the NEM  
6   customer generators there?

7           A    So that's basically the bill  
8   savings that NEM customers receive, which are  
9   in effect payments, yeah, from other  
10  customers to NEM customers, yeah, because it  
11  comes from the same pool of money.

12          Q    But it's a retail -- they pay it  
13  through their retail billing; correct?

14          A    At the monthly sort of bill -- at  
15  the electric retail rate, yes.

16          Q    Okay. Now, back to the testimony  
17  on line 10:

18               A    RIM greater than 1.0 implies  
19                   that rates for all customers would  
20                   decrease because the benefits  
21                   realized by all customers are  
22                   greater than the costs incurred by  
23                   nonparticipants. Conversely, a  
24                   RIM smaller than 1.0 means that  
25                   rates increase for all customers  
26                   due to NEM and that  
27                   nonparticipants pay more to  
28                   participants than the benefits



1           they receive. The magnitude of  
2           the RIM test metric; i.e., the  
3           amount greater or less than 1.0,  
4           indicates the extent to which  
5           rates increase or decrease due to  
6           NEM. A RIM value of 1 would mean  
7           that there is no impact on rates  
8           for both participants and  
9           nonparticipants.

10           So my question on that is would  
11          that mean -- now, I'm talking about equity  
12          between participants and nonparticipants. In  
13          your opinion, would a score of 1.0 be the  
14          most advantageous for both nonparticipants  
15          and participants as concerns equity?

16           A    As it relates to equity on rate  
17          impact, yes.

18           Q    Okay. For the nonparticipants,  
19          would a RIM score of 1 be more advantageous  
20          than a RIM score of less than?

21           A    For nonparticipants, a RIM score  
22          greater than 1 will provide more rate benefit  
23          to them.

24           Q    Right. But that -- would that  
25          be -- if it was greater than 1, would that be  
26          disadvantageous to the NEM participant?

27           A    Unclear. Depends on their benefit  
28          cost from their point of view, which is

1 something that RIM doesn't consider.

2 Q Well, payback, I assume, is what  
3 we're talking about; right?

4 A So in the question you posed me,  
5 sir, if a participant has a participant cost  
6 test greater than 1, then they will be fine,  
7 even if the RIM is greater than 1. The  
8 relationship isn't always inverse.

9 Q Oh, okay. Thank you. I appreciate  
10 your clarification of that. But in general,  
11 if it's less than 1, it's disadvantageous to  
12 the nonparticipant, and we -- would you --  
13 then you're basically subsidizing the  
14 participants being subsidized by the  
15 nonparticipants to some degree if it's less  
16 than 1; correct?

17 A The RIM? Correct.

18 Q So and the advantage -- some  
19 examples that we see are the grid benefit  
20 charge and -- what's the one you guys are  
21 proposing? I forget what your acronym is  
22 for, but basically there's a -- it's a large  
23 transition credit. Is that what you do to  
24 adjust for that?

25 A Three things; export at avoided  
26 cost, grid benefit charge, and a market  
27 transition credit, which is incentive for  
28 adoption, yeah.

1           Q    So did you, by any chance, have an  
2           opportunity to review some of the other  
3           parties' proposals?

4           A    Some, yes.

5           Q    Were you aware that CARE had a RIM  
6           score of 1.0?

7           A    I was aware.

8           Q    Thank you. Can we go now to  
9           page 26 of your direct testimony.

10          A    Yes, I am there.

11          Q    Starting at line 2, it says:

12                Figure 7 presents a comparison of  
13                simple payback period and  
14                first-year cost shift of the  
15                Successor Tariff proposals  
16                submitted to the CPUC. It shows  
17                that smaller payback periods  
18                accompany high-cost shifts and  
19                vice-versa. NRDC's proposal  
20                endeavors to balance this --

21                And then we skip from page 26 to 27  
22                starting at 1.

23                -- illustrated below. Figure 7  
24                Successor Tariff Comparative  
25                Analysis Showing Cost-Shift and  
26                Payback of Different Proposals for  
27                a 2023 Non-CARE PG&E Residential  
28                Customer.

1                   We're looking at Figure 7 now;  
2                   correct?

3                   A     Yes.

4                   Q     In Figure 7, you see the name  
5                   "CARE" there?

6                   A     Yes.

7                   Q     Would it be your understanding that  
8                   that's Californians for Renewable Energy and  
9                   not the other CARE acronym that's been used  
10                  in our proceeding here?

11                  A     Yes. And that figure is straight  
12                  from the ET analysis, and I assumed they used  
13                  it in the same manner as well as Californians  
14                  for Renewable Energy.

15                  Q     Okay. So now if you look at the  
16                  first-year cost shift, it says CARE has zero  
17                  cost shift.

18                  A     Yes.

19                  Q     Now, would it be your understanding  
20                  that you wouldn't need that MTC or the grid  
21                  benefit charge if there is no first-year cost  
22                  shift?

23                  A     The MTC is needed to make sure that  
24                  the payback period is reasonable if it's not.  
25                  So the CARE payback period, according to this  
26                  figure, is 25 years. So in that place you  
27                  might need an MTC. I think the key part  
28                  about this figure is that the parties with

1 the grid benefit charge and exports at  
2 avoided cost have much smaller cost shift  
3 than other parties and CARE's proposal, which  
4 ET values all at avoided cost has zero cost  
5 shift for that reason but also long payback  
6 period.

7 Q I'm just going to ask you an  
8 opinion. One of the elements of the CARE  
9 proposal is we've separated the wholesale  
10 export from the retail import. Do you think  
11 that there's an advantage or what do you see  
12 as advantages and disadvantages to doing  
13 that?

14 A The advantage of doing that is --  
15 the way I understand it's been analyzed is  
16 you're compensating at the avoided costs  
17 which are the most accurate estimates  
18 available right now of the distributed  
19 generation value.

20 The disadvantage is as analyzed --  
21 now, I'm uncertain whether this is your  
22 proposal -- the analysis implies that all  
23 solar exports are used there separately and  
24 none of this is self-consumed. So that might  
25 be, you know, a disadvantage for some.

26 Q Very good. Now, my final question  
27 is -- and this has to do with a little  
28 confusion I had -- but on the same page there

1 starting at 7, it says:

2 NRDC's proposal tries to balance  
3 system payback, (participant  
4 perspective) with cost-shift  
5 (nonparticipant perspective); this  
6 attempt at balance still causes  
7 cost-shift and should therefore be  
8 considered as the upper limit of  
9 subsidies to participants at the  
10 expense of nonparticipants.

11 So I have two questions on that  
12 last sentence there is -- when you are  
13 talking about subsidies there, are you  
14 talking again about a retail or a wholesale  
15 subsidy?

16 A I'm talking about any payment in  
17 excess of the benefit sustained from  
18 distributed generation. So in current NEM,  
19 it would be because of the difference between  
20 the retail rate and the avoided cost.

21 Q So are you using avoided cost  
22 interchangeably with wholesale?

23 A No. Avoided cost equals wholesale  
24 plus capacity benefit, plus some transmission  
25 and distribution benefits, plus climate  
26 carbon benefits so it has more than just the  
27 wholesale rate.

28 Q Very good. Okay. Thank you. That

1 helps. Now, the other question I had was you  
2 use this word "upper limit of subsidies,"  
3 that phrase. So when we're talking about  
4 upper limit, if you go up to the table here,  
5 I see NRDC is listing \$669 first-year cost  
6 shift. Is that what you mean by the upper  
7 limit?

8 A Yes, sir.

9 Q Very good. Now I guess the  
10 question is, is that there is still some  
11 disadvantage to the nonparticipants in that  
12 regard; correct?

13 A Yes. And that is the dilemma  
14 Commission faces. If you want to encourage  
15 solar and provide more incentive to comply  
16 with statute, how do you balance that with  
17 what happens to nonparticipants?

18 Q And finally, when we were talking  
19 about avoided costs, none of those times were  
20 you -- you weren't talking about PURPA  
21 avoided costs like we're talking about in our  
22 proposal; is that true?

23 A I was talking -- only talking about  
24 the California Public Utilities Commissions'  
25 avoided costs.

26 Q Okay. Thank you. That's all my  
27 questions.

28 Thank you, your Honor.

1 ALJ HYMES: Thank you.

2 Mr. Lindh, any redirect?

3 MR. LINDH: No. Thank you, Judge  
4 Hymes.

5 ALJ HYMES: Okay. At this time I want  
6 to take a quick break, slightly less than 10  
7 minutes. Everyone please be back by  
8 4 o'clock and we'll be off the record.

9 (Off the record.)

10 ALJ HYMES: We'll be back on the  
11 record.

12 Mr. Schwartz, please proceed. And I  
13 remind you that you have requested  
14 30 minutes. I'm hoping that perhaps you can  
15 shave a minute or two off, but 30 minutes.

16 MR. SCHWARTZ: Thank you, your Honor.  
17 I intend to if at all possible.

18 CROSS-EXAMINATION

19 BY MR. SCHWARTZ:

20 Q Good afternoon, Mr. Chhabra. My  
21 name is Ben Schwartz, and I'm representing  
22 the Clean Coalition. I would like to ask you  
23 a few questions mainly based on Exhibit  
24 NRD-02, which is your rebuttal testimony, I  
25 believe. The first question is pretty basic.

26 Exports at near-term hourly avoided  
27 costs updated every two years, I believe, is  
28 what you propose in your proposal. So my



1 question is does that mean that every major  
2 update of the avoided cost calculator would  
3 be used?

4 A (Indecipherable.)

5 THE REPORTER: Excuse me, Mr. Chhabra.  
6 Can you please start again. Your line cut  
7 out at the beginning. Thank you.

8 THE WITNESS: Every major update would  
9 be considered, but we didn't specify whether  
10 the update would be average, major average,  
11 minor. We just said it would be a two-year  
12 cadence.

13 BY MR. SCHWARTZ:

14 Q Okay. So if, for example, the 2021  
15 avoided cost calculator were used, would that  
16 mean that every two years essentially, a  
17 minor update would be used or could that  
18 change?

19 A The Commission could determine to  
20 change it with good reason.

21 Q Okay. So your proposal doesn't  
22 specify and has no preference?

23 A We don't have a preference between  
24 major update year or minor update year.

25 Q Okay. Thank you. Now moving to  
26 your rebuttal testimony on page 7, lines 4  
27 through 6, and I'll give you a moment to get  
28 there. Just let me know when you're ready.

1           A    I am there.

2           Q    You state, quote, "However, these  
3 same additional societal benefits are also  
4 not currently included when evaluating any  
5 other clean energy resources," end quote.

6                   Do you think that the Commission's  
7 current method of considering additional  
8 societal benefits is correct?

9           A    That's hard to answer because  
10 societal benefit cost analysis is very  
11 complicated. I would say in my experience  
12 working at multiple Commission, the PUC's  
13 methodology of including societal cost of  
14 benefits is more advanced than most regions.  
15 However, the question always remains when the  
16 Commission tries to fault for electric  
17 ratepayer money, how many societal benefits  
18 should they include and why.

19          Q    Okay. So as a follow-up, do you  
20 think the Commission needs to better value or  
21 include other societal benefits?

22          A    I think that societal benefits are  
23 important when evaluating impact for policy.  
24 I think one of the main issues that confronts  
25 the Commission now is the more societal  
26 benefits you include in stuff -- shouldn't  
27 say stuff. This is a formal proceeding -- in  
28 proposal that impact rates, more proposals

1 will be cost effective than otherwise, which  
2 would mean that rates would fund more  
3 initiatives.

4           So where is the line in between  
5 keeping electric rates in check and funding  
6 societal benefit to electric rates. I feel  
7 like that it -- not I feel -- I know that  
8 that is one of the foremost challenges that  
9 the Commission faces when doing cost  
10 effectiveness in this proceeding and beyond.

11           Q    Okay. So just to make it  
12 abundantly explicit, in this proceeding, do  
13 you believe the Commission has reached the  
14 exact balance necessary to make this tariff?

15           A    The Commission has reached a good  
16 enough balance by using the avoided cost  
17 calculator to value exports and to do a cost  
18 effectiveness analyses. Because the  
19 Commission may want to consider more societal  
20 benefits, NRDC, and I think TURN as well,  
21 have proposed a market transition credit, an  
22 incentive, that could be used. And hopefully  
23 we could figure out a way to fund that  
24 through nonratepayer sources as well.

25           Q    Okay. Thank you. Do you believe  
26 that all clean energy resources provide the  
27 same societal benefits or does it depend  
28 where the resource is sited?

1           A     I would say that it depends on the  
2     impact a resource has, which is a function of  
3     two things; where it's sited and how it  
4     operates. How it operates, meaning if you  
5     deflect or reduce power production from  
6     polluting resources, then the carbon and air  
7     pollution benefits system-wide would be  
8     similar, but location could impact other  
9     things like transmission and distribution  
10    impacts and such.

11           Q     Thank you. On page 8, lines 1  
12    through 3 of rebuttal testimony.

13           A     Yes.

14           Q     You say, quote, "For this  
15    proceeding, the CPUC must use the same carbon  
16    value for all clean energy technology that  
17    reduces carbon emissions," end quote.

18                   Do you mean the value listed in the  
19    current avoided cost calculator?

20           A     So the value in the current avoided  
21    cost calculator is the marginal abatement  
22    cost of carbon. There is the implied value  
23    of Commission policy goals to reduce carbon  
24    across the supply and demand side.

25           Q     Okay. So considering that answer,  
26    would you agree that the ACC does not  
27    consider the value of reducing localized air  
28    pollution through deploying distributed

1 generation?

2           A     The ACC does not include -- so  
3 here's why that's hard to answer,  
4 Mr. Schwartz, is the GHG adder in the avoided  
5 cost calculator is essentially a policy  
6 adder; right? So our clean energy policy  
7 cost something, what is that value? And a  
8 co-benefit of carbon reduction is air  
9 pollution reduction. So to the extent those  
10 things work together, it is considered to  
11 some extent.

12                 Now, there's a separate issue of  
13 the societal impacts of carbon and air  
14 pollution, and then those would be considered  
15 when you're doing a societal cost test, and  
16 that value is not included.

17           Q     Okay. Thank you. So, for example,  
18 if NEM generation was aggregated through  
19 either a virtual power plant or a community  
20 microgrid and that is able to obviate the  
21 need for a gas-fired power plant, should  
22 distributed generation receive a credit for  
23 that?

24           A     Currently distributed generation  
25 receives a capacity credit. It used to be on  
26 the cost of a gas turbine, but it is now at  
27 the cost of storage. So to the extent  
28 distributed generation obviates the need for

1 capacity, which is the existence of storage  
2 or anything cheaper than that, that is  
3 currently considered in the avoided cost.

4 Q Okay. In Footnote 17, on the  
5 bottom of the same page, I believe, page 8.

6 A Yes.

7 Q You discuss the effect that cap and  
8 trade costs had on the greenhouse gas adder  
9 for the '21 avoided cost calculator. Did  
10 these costs result in a lower greenhouse gas  
11 adder?

12 A So the cap and trade costs, sir,  
13 are additives to the greenhouse gas adder so  
14 the avoided cost calculator has two separate  
15 inputs -- well, three separate inputs for  
16 carbon-related impact. One is the GHG adder,  
17 which is that policy cost of our climate  
18 goals. The second is the cap and trade cost  
19 which comes from the California Energy  
20 Commission IEPR work, their demand  
21 forecasting.

22 It's a forecast of how much the  
23 trading would be in our cap and trade market,  
24 and those two are added together separately.  
25 So the total impact of GHG is the sum of  
26 those two things.

27 Q So did the lower greenhouse gas  
28 adder result in a lower avoided cost to

1 stand-alone storage?

2 A All other things kept equal, yes,  
3 but that was not the only thing that  
4 contributed to avoided cost decreasing.

5 Q Thank you. And would you reply the  
6 same answer to solar-plus-storage as well?

7 A All other things being kept equal,  
8 which means that they've produced in exactly  
9 the same amount if you reduce the GHG adder,  
10 then the benefit you would see is less.

11 Q So if the cap and trade costs go  
12 up, meaning the costs per metric ton of  
13 carbon, how will the avoided cost calculator  
14 values change?

15 A They would increase accordingly.

16 Q Okay. So the current price for a  
17 metric ton of carbon is between \$18.80 and  
18 \$19.04. Would you say that this is a  
19 reasonable price?

20 A The current cap and trade price is  
21 reflective of California's cap and trade  
22 market, so it's reasonable for that. Is it  
23 reasonable for carbon is a separate question.

24 Q Okay. Thank you. Moving on to the  
25 proposed grid benefits charge, is the NRDC  
26 proposal to lock in a grid benefits charge  
27 for 10 years or will it change annually? I  
28 wasn't entirely sure from the proposal you

1 put forth.

2 A It wasn't -- it's not going to  
3 change -- we didn't specify, which is why you  
4 probably didn't -- we don't have a specific  
5 proposal to lock it in -- to update it. We  
6 do think that the confidence of our tariff,  
7 including the GBC and the avoided costs,  
8 would be locked in for 10 years for an  
9 adopting customer to give certainty. But for  
10 new customers, there may be a different GBC.

11 Q Let me ask this: Cal Advocates, I  
12 believe in the errata to their testimony, is  
13 now recommending a four-year lock on their  
14 grid benefits charge and rates. Is that  
15 correct to the best of your understanding?

16 A I don't remember, but I trust your  
17 understanding.

18 Q Okay. Would you agree with that?

19 A That's one feasible way of doing  
20 it. I don't disagree with that.

21 Q Okay. Did NRDC consider any other  
22 mechanisms for recovering system costs  
23 besides the grid benefits charge proposed by  
24 Cal Advocates?

25 A The grid benefits charge is to at  
26 minimum recover costs, fixed costs, of  
27 transmission and distribution, and that is  
28 best expressed as a demand charge. We



1 propose it be scaled for kW. There could be  
2 other ways of doing it, like a minimum bill  
3 has been presented, but they aren't  
4 progressive.

5 And by that I mean, if there's a  
6 minimum bill of \$30, say, someone living in a  
7 very small home is subject to that minimum  
8 bill, as well as someone living in a really  
9 large mansion. So you're tariff then is  
10 biased towards the large mansion. So for  
11 that reason, we want the grid benefit charge  
12 to scale with the customer's attributes, and  
13 that's why it's on dollar-per-kW demand  
14 basis.

15 Q So when you say it's the best  
16 mechanism, do you mean it's the most fair and  
17 equitable mechanism?

18 A All system for mechanisms I valued  
19 it, it seemed to be the fairest, yes.

20 Q Do you also believe that it's the  
21 most likely to be passed by the Commission?

22 A I have many skills. Forecasting  
23 what the Commission does isn't one of them.  
24 I just want to make my best proposal.

25 Q Okay. So your answer might be the  
26 same to this next question. If it is, that's  
27 fine. Do you think the Commission would pass  
28 a NEM successor tariff that included

1 transmission and distribution costs in the  
2 list of nonbypassable charges?

3 A As a clarifying question, when you  
4 say in the list of nonbypassable charges,  
5 because nonbypassable charges are based on  
6 consumption, you're basically asserting that  
7 T&D charges should be based on consumption as  
8 well.

9 Q In this hypothetical, yes.

10 A Okay. I don't -- what was your  
11 original question, again?

12 Q So I'll repeat it. Do you think  
13 that the Commission would pass a successor  
14 tariff that included T&D costs in a list of  
15 nonbypassable charges?

16 A I don't know what the Commission  
17 would do.

18 Q Okay. So are you saying that the  
19 mechanism has very little affect on your  
20 proposal?

21 A No. I'm saying that we prefer T&D  
22 costs to be recovered on a dollar -- on a  
23 demand basis because that's what drives this  
24 cost causation. These are demand-based fixed  
25 costs. And nonbypassables are typically  
26 evaluated on the basis of consumption, and  
27 estimated consumption is our preferred way to  
28 recover those. ]

1           Q    Are you aware that transmission  
2 access charges are currently metered based on  
3 consumption as a dollar per kilowatt-hour  
4 charge?

5           A    That is my understanding, yes.

6           Q    Thank you. Moving on. On page 10,  
7 lines 2 through 3, rebuttal testimony.

8           A    I am there.

9           Q    You mentioned quote:

10                   A Grid Benefits Charge is needed  
11                   to recoup from NEM customers' the  
12                   cost the utility company incurs to  
13                   serve them, and to ensure that  
14                   these costs are not unfairly borne  
15                   by other customers.

16           So let me ask a question to see if the  
17 logic is universal there. For projects  
18 interconnected to the transmission grid that  
19 require grid upgrades, the costs are  
20 currently borne by the ratepayers. Would you  
21 call that a cost shift?

22           A    Could you define "cost shift"?

23           Q    In the same way that NRDC is  
24 describing NEM as a cost shift.

25           A    NRDC is referring to NEM as a cost  
26 shift in that costs caused by some customers  
27 are recovered from others.

28                   And what was your question again

1 about the transmission?

2 Q So in the example of transmission  
3 projects, a project that is deployed is not  
4 paid for by the developer. It's paid for by  
5 the ratepayer. And that seems a lot to me  
6 like that is a developer shifting that cost  
7 to all ratepayers. Would you agree with  
8 that?

9 A I don't know. Because the cost  
10 shift as we refer it is fairness among  
11 customers when the CPUC determines that a  
12 cost needs to be recovered from a customer.

13 What you're referring to is a  
14 decision point -- first decision point, which  
15 is: Should the CPUC even ask customers to  
16 pay for transmission?

17 Q Not exactly. I was just asking if  
18 shifting the cost of interconnection upgrades  
19 to all customers, a cost shift if it could  
20 otherwise be paid by the developer?

21 A I don't quite understand it because  
22 when the CAISO decides to -- cost of  
23 interconnection and such, I'm not an expert.  
24 I know that the ISO for example only allows  
25 upgrades to transmission when it's cost  
26 effective.

27 So if it's cost effective to serve  
28 all customers, something's approved, and then

1 all customers share in the payment of that.  
2 So that's why I don't quite understand that.

3 Q I see. So in that case, the grid  
4 benefit charge is similar; right, if you're  
5 saying: If it's cost effective, then all  
6 customers will share in those costs. And if  
7 it's not, it's a cost shift?

8 A The grid benefit charge -- there  
9 are certain costs to serve customers that are  
10 fixed. The service that a utility provides a  
11 customer, to my best understanding, is the  
12 ability to use electricity feasible for the  
13 physical constraints of my main block. To  
14 the extent possible when I want, where I --  
15 whenever I want at a fixed rate.

16 To do that, they need to maintain  
17 some amount of transmission and distribution  
18 infrastructure so that the fixed cost shared  
19 among all customers because all customers --  
20 that's the service being provided to all  
21 customers.

22 If a customer stops paying that but  
23 still enjoys the benefits of being  
24 interconnected and being able to pay on a  
25 sunny afternoon in December, have a big Xmas  
26 party, then a cost shift happens.

27 Q Okay. Thank you. So I will just,  
28 kind of, clarify and summarize what I'm

1 saying with this statement. The grid benefit  
2 charge is intended to charge customers for --  
3 NEM customers for their usage of the grid,  
4 and so they are required to pay it?

5 A For the service --

6 (Crosstalk.)

7 A I'm sorry. I didn't mean to speak  
8 over you.

9 Q Right. On the other hand,  
10 transmission customers are also  
11 interconnected to the grid but are not  
12 required to pay those same upgrade costs.  
13 Please explain the difference.

14 MR. LINDH: Your Honor, this is Frank  
15 Lindh. I'd like to pose an objection.  
16 Because the way the question was phrased said  
17 transmission customers don't pay transmission  
18 costs. I think he's talking about the  
19 generator on other side of that  
20 interconnection.

21 (Crosstalk.)

22 MR. LINDH: -- ratepayers. Thank you.

23 ALJ HYMES: Just a reminder to let  
24 everyone finish their statements first.

25 Yes, you may respond.

26 MR. SCHWARTZ: I agree with Mr. Lindh.  
27 I'm happy to rephrase. I will be more  
28 concise and clear.

1           Q    So just to restate: A NEM  
2 generator -- generating facility is required  
3 under the NRDC to pay a grid benefit charge  
4 to recoup those fixed costs. Whereas a  
5 developer interconnecting a project to the  
6 transmission system is not required to pay  
7 costs of upgrades. Can you explain what is  
8 different between these two situations?

9           A    Okay. With the caveat that I'm  
10 uncertain what a interconnecting generator  
11 pays for and what they don't. I do know that  
12 there are some costs to interconnect; right?

13                   But your larger question is why  
14 don't they have a grid benefit charge? So  
15 the grid benefit charge is recovered cost of  
16 service to customers like you and I who live  
17 in homes and use electricity. Because to  
18 avail of that service, the grid must be  
19 maintained with a certain capacity to  
20 service.

21                   I don't know whether that's the  
22 case for generators that are interconnecting.  
23 And generators interconnect when they're  
24 needed to provide a service. They don't  
25 interconnect otherwise; right? So that is  
26 why our proposal is the way it is that  
27 customers -- make sure that all customers can  
28 pay their fair share of transmission and

1 distribution fixed cost.

2 Q Okay. Thank you. Moving on. If a  
3 5-kilowatt system and a 7-kilowatt system  
4 both consume 3-kilowatts on site, is their  
5 usage of the grid the same?

6 A Depends on their customer usage  
7 profile. Are you talking about net energy  
8 metered system?

9 Q Yes.

10 A So a customer with a 5-kilowatt  
11 versus a 7-kilowatt was the question?

12 Q Yes.

13 A That would depend on their usage  
14 profiles of the customer (inaudible) demand  
15 and so on.

16 Q So for the sake of the example,  
17 both are consuming the same amount of energy  
18 on site.

19 A If their demand is the exact same  
20 as well.

21 Q I guess -- I'm not specifying in  
22 this example. The focus is on-site  
23 consumption.

24 A So because NEM systems are sized to  
25 meet onsite consumption, I would expect that  
26 if someone had a 7-kilowatt system or  
27 consumption that's higher than something a  
28 5-kilowatt system would need. Unless someone



1 intentionally just -- I guess I don't -- I  
2 can't answer your question without knowing  
3 customer consumption profiles. Generally if  
4 a customer were to install a solar system to  
5 meet their full load, a customer with a  
6 higher load would install a larger system.  
7 And a customer with a lower load would  
8 generally install a lower system.

9 Q Right.

10 (Crosstalk.)

11 Q The question then becomes they both  
12 are using the same amount of onsite  
13 consumption. Is their usage of the grid  
14 different?

15 A Depends on their peak demand and  
16 their usage profile.

17 Q But they would still be -- they  
18 would still -- so they would be charged a  
19 different grid benefit charge in spite of  
20 having the same onsite consumption profile?

21 A The grid benefit charge is meant to  
22 be tied to the customer's peak demand.  
23 Customers with more peak demand -- that's  
24 what it's meant to replicate.

25 It's not based -- the recovered  
26 fixed cost of demand and if customers have,  
27 say, a consumption of -- I guess in your  
28 hypothetical, those customers would be

1 charged separate grid benefit charges.

2 Q Okay. Thank you. So as a  
3 followup, you mentioned it's supposed to be  
4 tied to peak demand. But if that's the case,  
5 then why is the charge based on system size  
6 and not directly correlated to peak demand?

7 A Yeah. That's an assumption I made  
8 is it's harder to -- it's simpler to execute  
9 it. The assumption is that customers with  
10 more demand and more consumption would  
11 install bigger systems. So on average, a  
12 dollar per kW grid benefit charge scales at  
13 that. That's the assumption. Are there  
14 certain instances where that may be violated  
15 to some extent? Sure. But the expectation  
16 is that on average the dollar per kW grid  
17 benefit charge scaled with customer  
18 consumption.

19 Q So on average it works with some  
20 assumptions. Essentially you're saying it  
21 can provide a similar method of calculation.  
22 So the question is: Why is it necessary to  
23 make assumptions and to use a simple system  
24 when there could be an exact way of recouping  
25 these costs?

26 A And what is that exact way?

27 Q That is not up to me to address.  
28 That's, you know, just my question. Why use

1     this mechanism if there could and are other  
2     more accurate mechanisms?

3           A     The other -- only other thing I can  
4     think of is having separate meters for  
5     consumption and export. But I don't think  
6     people would like that proposal and using  
7     that somehow.

8           But in the absence of that, because  
9     there is enough self consumption and the  
10    kilowatt-hours recorded by the meter aren't  
11    always reflective of the total electricity  
12    consumed by a home and their electric demand  
13    that's met. In the absence of those two  
14    things, that is the best proposal in my  
15    opinion.

16          Q     Okay. Thank you. Should a NEM  
17    customer, let's say for example in Edison's  
18    service territory, SCE, be charged the same  
19    amount in transmission costs as a non-NEM  
20    customer in a CCA service territory getting  
21    energy that's contracted in Northern  
22    California?

23          A     Could you repeat your question?

24          Q     So I will specify and just, kind  
25    of, simplify it. Should a customer in  
26    Edison's service territory producing energy  
27    onsite, a NEM customer, be charged the same  
28    amount as a customer receiving renewable

1 energy from let's say San Francisco?

2 A And where is the renewable energy  
3 being produced again?

4 Q In Northern California. Let's say  
5 it's a CCA contract. Should both entities be  
6 charged the same amount in transmission  
7 prices?

8 A That's really -- the reason why I'm  
9 pausing, Mr. Schwartz, is that I guess  
10 electricity travels close to the speed of  
11 light. And as long as there's capacity in  
12 the line, it will reach places. And it's  
13 impossible to track electrons.

14 Financial contracts aren't the same  
15 as following electrons from various places to  
16 where it lands. Financial contracts ensure  
17 that there's enough production capacity  
18 online across the grid given it's  
19 constraints.

20 So that's why it's hard to answer  
21 that question. I don't know if there are any  
22 incremental costs of an electron traveling at  
23 the speed of light across California. And I  
24 don't know if you can track electrons  
25 traveling that far. The question is -- yeah.  
26 That's why I can't answer that.

27 Q Okay. So for example, are there  
28 greater line losses associated with onsite

1 consumption or the travel of electricity over  
2 hundreds of miles of transmission lines?

3 A In the hypothetical, there's one  
4 production facility that's hundreds of miles  
5 away from the one consumption facility where  
6 electricity consumed. There will be line  
7 losses, yes.

8 And to recover those line losses,  
9 the production facility will have to do stuff  
10 like produce more electricity, and there's a  
11 cost to that. So they will bid in higher  
12 through the energy market so theirs is less  
13 likely to be accepted.

14 Q Okay. And then the last couple of  
15 questions. I'm just about at time. Is it  
16 correct to assert that CARE customers will  
17 begin paying an equity fee after the initial  
18 10 years?

19 A No. CARE customers are exempt  
20 always.

21 Q Okay. They will be assessed a grid  
22 benefit charge?

23 A No. They are exempt from both.

24 Q And is that also just for the  
25 initial 10-year period or entirely?

26 A For the lifetime.

27 Q Okay. So my final question is how  
28 does NRDC expect a customer's bill will

1 change after 10 years both for a non-CARE  
2 customer and a CARE customer?

3 A The expectation of how a bill would  
4 change after 10 years is the same whether or  
5 not NRDC's proposal is accepted or not. Life  
6 happens, things change, and I don't know how  
7 to answer that.

8 Q Okay. Thank you.

9 MR. SCHWARTZ: That's all the questions  
10 I have.

11 ALJ HYMES: Thank you.

12 Any redirect?

13 MR. LINDL: Your Honor, if I can -- if  
14 I may, I would like to ask Mr. Chhabra one  
15 question based on the dialogue he just had.

16 ALJ HYMES: Okay.

17 REDIRECT EXAMINATION

18 BY MR. LINDH:

19 Q And that is: Mr. Chhabra, for  
20 purposes of this case, how do you define the  
21 term "cost shift"?

22 A Cost of service caused by NEM  
23 customers that they should pay for that they  
24 aren't paying for are being paid by non-NEM  
25 customers that on average tend to be poorer.

26 Q Okay. Thank you, Mr. Chhabra.

27 MR. LINDH: And thank you, your Honor.

28 ALJ HYMES: Okay. Thank you.

1 Last we have Mr. Stanton.

2 Please proceed.

3 CROSS-EXAMINATION

4 BY MR. STANTON:

5 Q Good afternoon, Mr. Chhabra. I'm  
6 Aaron Stanton on behalf of the Protect Our  
7 Communities Foundation. I'm glad to be  
8 wrapping up the week with you. And before we  
9 begin, I want to thank you for your time  
10 today.

11 If you would, please turn to page 3  
12 of your opening testimony, NRD-01, Figure 1.

13 A I'm there.

14 Q Thank you. That figure shows the  
15 results of the cost of service test for  
16 residential NEM customers in the NEM 2.0  
17 Lookback Study; is that correct?

18 A That is correct.

19 Q Do you agree that Verdant properly  
20 calculated the cost of service for NEM 2.0  
21 customers?

22 A I reviewed what was in their  
23 report. And I viewed the results as  
24 directionally correct. I'm unable to vouch  
25 with precision about everything.

26 Q Okay. Did you provide any comments  
27 identifying specific deficiencies or general  
28 deficiencies in the cost of service analysis?

1           A    I wasn't involved in that process  
2   then if I recollect. I didn't submit any  
3   comments unless I'm mistaken. Yeah.

4           Q    Okay. Thank you. I'd like you to  
5   turn to page 45 of the NEM 2.0 Lookback  
6   Study, which is marked as PCF-15.

7           A    Almost there. Page what?

8           Q    It is page 45. If you're looking  
9   at the PDF, it's page 57 of the PDF.

10          A    Thank you, sir. Cost of service  
11   analysis.

12          Q    That's right. I'd like you to look  
13   at the last five lines of the page. These  
14   lines say quote:

15                   The cost of service includes  
16                   marginal costs associated with  
17                   energy generation and capacity,  
18                   marginal distribution costs,  
19                   embedded transmission costs,  
20                   regulatory costs, fixed customer  
21                   costs, and first-year NEM costs.

22                   In your opinion, is there anything  
23   else that cost of service should include?

24          A    None come to mind right now.

25          Q    Okay. I'd like to direct your  
26   attention to page 98 of that same document.  
27   That's PDF page 110. And this is Table 5-11.

28          A    Yes.



1           Q    Okay. That table shows aggregate  
2 bill payments compared to the cost of service  
3 pre and post NEM 2.0 installation; is that  
4 correct?

5           A    Share of bill payment in excess of  
6 cost of service for NEM 2.0, yes.

7           Q    Would you agree that that table  
8 shows that as a general rule prior to  
9 installation of their solar systems, that NEM  
10 2.0 customers paid amounts close to or  
11 greater than their cost of service?

12          A    This is residential or?

13          Q    This question is about both. But I  
14 can break it down.

15          A    That's fine.

16               (Crosstalk.)

17          A    I just want to point out we have a  
18 residential proposal. We don't have a  
19 (inaudible) proposal. But your observation  
20 about the table is right for the year of cost  
21 of service analysis that Verdant did because  
22 I know that estimates could change from year  
23 to year. Yeah.

24          Q    Okay. Thank you. So continuing to  
25 look at is this chart. NEM 2.0 residential  
26 customers in PG&E's service territory prior  
27 to installation of their solar systems in  
28 aggregate paid 139 percent of their cost of

1 service; is that correct?

2 A With the asterisk that when this  
3 pays -- pre-NEM bill payments divided by cost  
4 of service. I am uncertain whether this  
5 refers to only the NEM 2.0 participating  
6 customers or that customer class. So I'm  
7 uncertain whether the cost of service  
8 calculation was done across that whole  
9 customer class or only for those hand full of  
10 customers.

11 Q Okay. Thank you for that  
12 clarification. And nonresidential NEM  
13 customers prior to NEM installation were  
14 paying -- and this was in PG&E's service  
15 territory -- 189 percent of their cost of  
16 service. Is that accurate with the same  
17 clarifier that you previously gave to the  
18 last question?

19 A Right. For that year's analysis  
20 based on the cost of service scheduled in the  
21 PUC processes, yeah. With that caveat, for  
22 sure.

23 Q Thank you. Because payments by  
24 these customers were higher than their cost  
25 of service, were these customers effectively  
26 subsidizing other customers as a class?

27 A If that were true over the long  
28 term, then on average these customers would

1 be likely subsidizing other customers.

2 Q After installation of NEM  
3 systems -- this is still on the same table --  
4 in PG&E's service territory, residential NEM  
5 customers pay 18 percent of their cost of  
6 service. Is that an accurate reading of this  
7 table?

8 A Yes.

9 Q Is it your position that this gap  
10 between the 18 percent paid and the full cost  
11 of service is being made up by other  
12 ratepayers?

13 A The difference in the cost of  
14 service pre and post, yes.

15 Q And is it an apparent difference in  
16 the cost of service pre and post what you  
17 would consider to be the cost shift to  
18 customers who do not participate in NEM?

19 A I don't know the answer to that  
20 because I need to go through the cost of  
21 service analysis again and compare that with  
22 -- because the cost shift, specifically the  
23 number, when I refer to it are the results of  
24 the RIM analysis.

25 Q Okay.

26 A Yeah.

27 Q Let's go back to your testimony.  
28 So I'm going to broadly characterize your

1 testimony, and I would like you to tell me if  
2 you agree.

3 In your testimony, you indicate  
4 that the failure to pay full cost of service  
5 by residential NEM customers results in a  
6 cost shift to nonparticipating customers. Is  
7 that an accurate characterization?

8 A Could you repeat that? That wasn't  
9 (inaudible).

10 Q Sure. No problem. I will repeat  
11 it. In your testimony, you indicate that the  
12 difference between the full cost of service  
13 and NEM residential customer payments results  
14 in a cost shift to nonparticipating  
15 customers; is that correct?

16 A The cost shift is the difference  
17 between solar production valued at avoided  
18 cost and solar production compensated at  
19 existing NEM 2.0 tariff.

20 Q Okay. I'd ask you turn to page 3  
21 of your opening testimony, lines 2 through 4.  
22 This is NRD-01.

23 A Yes.

24 Q Here you state quote:

25 The existing NEM tariff  
26 overcompensates NEM participants  
27 who end up not paying their share  
28 of the cost to provide service.

1 Nonparticipants end up paying for  
2 NEM 2.0 customers' cost of  
3 service.

4 What did you mean by that?

5 A Exactly that. That nonparticipants  
6 end up paying NEM participants' cost of  
7 service. But I would say that doesn't mean  
8 that the total cost shift is equal to the  
9 cost of service results. That is one  
10 component of the cost shift.

11 Q Let's go to page 6 of your opening  
12 testimony, lines 5 to 6.

13 A Lines 5 and 6.

14 Q Yeah. So here you assert that  
15 quote:

16 Market forces left alone will not  
17 be enough to deliver distributed  
18 solar to lower-income  
19 Californians.

20 Is that a correct reading of those  
21 lines?

22 A Right.

23 Q Would increasing the payback period  
24 for a NEM solar installation, all other  
25 things being held equal, tend to increase or  
26 decrease the attractiveness of NEM solar to a  
27 lower-income customer?

28 A In my opinion, lower-income

1 customers face barriers for adoption.  
2 Especially first-cost barrier, which could  
3 include repairing a roof and so on. And also  
4 the fact that not all of them tend to be  
5 homeowners.

6 So when we say, "Would decreasing  
7 the payback period --"

8 It would make it more attractive  
9 proposition to those who can afford the first  
10 cost. So to deliver the systems to  
11 lower-income customers, you need a policy  
12 mechanism that breaks down that first cost  
13 barrier as well. That I would say is more  
14 important than just the payback period.

15 Q All right. Please turn to page 7  
16 of your opening testimony, lines 18 to 23.

17 A I'm there.

18 Q Thank you. Quote:

19 The shorter the payback period,  
20 the more beneficial a NEM tariff  
21 is to a NEM participant. The  
22 payback period is a metric  
23 frequently used to understand how  
24 likely a customer is to invest.  
25 For example if we assume that a  
26 rooftop solar system has a  
27 lifetime of at least 25 years, the  
28 payback period of less than 25

1                   years results in a PCT greater  
2                   than one. But an economically  
3                   conscious customer may want a  
4                   shorter payback period to be  
5                   willing to invest in a solar  
6                   system.

7                   Is that an accurate reading of those  
8                   lines? In your opinion, is a lower-income  
9                   customer more likely than a higher-income  
10                  customer who require loans or other forms of  
11                  financing in order to install a NEM system?

12                 A     Because of the first cost barrier  
13                   among other things.

14                 Q     Just for the record, is that a yes?

15                 A     Yes. Because dot, dot, dot, yes.  
16                   Thank you.

17                 Q     Thank you. Would a customer who  
18                   pays interest on loans to finance a NEM  
19                   system have a longer or shorter payback  
20                   period compared to a customer who purchased a  
21                   system in cash holding all else equal? ]

22                 A     Yes, because dot, dot, dot. Yeah.  
23                   Thank you.

24                 Q     Okay. Thank you. Thank you.

25                   Would a customer who is paying  
26                   interest on loans to finance a NEM system  
27                   have a longer or shorter payback period  
28                   compared to a customer who purchased a system

1 in cash, holding all else equal?

2 A Depends on the customer's, I guess,  
3 CARE, if they're on, their (inaudible)  
4 profiles. But, everything else equal, if  
5 someone pays cash, that means they aren't  
6 paying interest, and so -- so, yeah, they'll  
7 have a lower payback period. I agree.

8 Q Do you agree that the payback  
9 period calculation that included loan  
10 interest expenses would more accurately  
11 reflect the payback period for many  
12 low-income customers?

13 A I would say that maybe, in general.  
14 But, I would just say that as -- if we want  
15 to understand the impact on customers that  
16 use loans and those that don't, there's  
17 certain wealthy customers might decide to  
18 take a loan, and invest savings. Right? So  
19 just categorize those in two different  
20 things, and they'll be different payback  
21 periods for customers that do a cash down  
22 payment versus customers that take a loan.

23 Q I'm going to shift gears slightly,  
24 but still on the subject of payback periods,  
25 in the quote that we -- we discussed earlier,  
26 you talked about an economically conscious  
27 customer.

28 For that economically conscious



1 customer, what would you consider to be a  
2 reasonable payback period?

3 A Our proposal is to infer ten-year  
4 payback period. Given that the system lasts  
5 for 30 years or more, that's a third of the  
6 life. And our proposal is -- the ten years  
7 is to balance an incentive with impacts on  
8 non-participants. So, you know, that --  
9 that's our proposal.

10 I haven't -- when you ask that  
11 question, I don't know if -- I know of a  
12 scientific study that provides like a certain  
13 threshold for someone to invest in or not,  
14 but that's our going assumption, that a  
15 ten-year payback on a 30-year system should  
16 be incentive enough.

17 Q And so, just to probe a little bit  
18 more the reasoning behind the ten-year  
19 payback period, is -- is there any data that  
20 led you to that -- that specific value?

21 A That was my best estimate, given my  
22 experience working mostly in other incentive  
23 programs, was a ten-year payback on something  
24 that lasts that long should be sufficient.  
25 It wasn't database. It was more -- I don't  
26 have a specific source of data. That's with  
27 my estimate -- estimate.

28 Q So did you look at -- I'm sorry.

1 Thank you.

2 Okay. We're close to the end here,  
3 your Honor; just wanted to let you know.

4 On page 10, lines 18 to 20 of your  
5 opening testimony, you state, quote,  
6 "Mechanisms that overcome common adoption  
7 barriers in DACs, such as mitigating the high  
8 first" call of install -- "high first cost of  
9 install," excuse me, "or those that don't  
10 require high credit scores for financing  
11 should be preferred."

12 In that quote, DAC stands for  
13 disadvantaged communities. Is that correct?

14 A That is correct.

15 Q Is the equity fund that you  
16 proposed intended to be one such mechanism to  
17 overcome common adoption barriers?

18 A That is correct.

19 Q Did you consider any other such  
20 mechanisms for inclusion in NRDC's proposed  
21 successor tariff?

22 A I did, but that was one that rose  
23 to the fore.

24 Q What specific other mechanisms did  
25 you consider?

26 A I was mostly thinking about  
27 decreasing the first cost, and also,  
28 minimizing cost shift. And when you min- --

1 want to minimize the cost shift, you want to  
2 get add -- accurate as possible for export  
3 grade. So that -- that really means that you  
4 really need to -- you can't finance it  
5 through bills as successfully, if you're  
6 trying to -- if you pay for exports of  
7 avoided cost, because that would mean lesser  
8 bill savings compared to the current NEM 2.0.  
9 So I landed at an up-front incentive to  
10 install, basically pay down the cost of the  
11 system, for lower-income customers.

12 Q Okay. Did you review Exhibit  
13 PCF-66 in preparation for your  
14 cross-examination?

15 A The long slide deck, I went through  
16 it, yes.

17 Q Okay. Let's -- let's go to one  
18 particular page of that slide deck, PDF  
19 page 38 of PCF-66.

20 A The one that's titled "Water  
21 Upgrades \$ave"?

22 Q Yes, with the dollar sign in place  
23 of an "S."

24 This page discusses water  
25 efficiency programs in California that use  
26 tariffed on-bill financing. Are you familiar  
27 with tariffed on-bill financing, the concept?

28 A Somewhat.

1           Q    Would you agree that the program  
2   disguise -- described on this page allows  
3   utilities to install customer-sided  
4   improvements with no up-front payments that  
5   are then funded through a monthly on-bill  
6   charge?

7           A    Yes, with the understanding that  
8   the monthly bill savings that customers  
9   receive through the action to participate  
10  in whatever they install are certain enough,  
11  and agree to pay back the install cost of  
12  that. Right? That -- that -- in those  
13  scenarios, on-bill financing works. So if I  
14  were to install something that costs a  
15  thousand dollars, and I know I'll get like a  
16  hundred-dollar back a year, and that system  
17  lasts for 20 years, I know that in ten years  
18  I'll be paid back, and then -- in my bill.  
19  So -- so, yes, I understand that much about  
20  on-bill financing.

21          Q    Okay. Would you agree that the  
22  program described on this page, Water  
23  Upgrades \$ave, is tied to the meter, rather  
24  than to the customer, so that the customer  
25  pays only while they're a customer at the  
26  project location?

27          A    Yes, I agree that that's what it  
28  says.

1           Q    Okay.  And then, final question, do  
2   you think that tariffed on-bill financing  
3   could help reduce the barriers for customers  
4   in disadvantaged communities to participate  
5   in NEM, including by mitigating high cost of  
6   installation?

7           A    I don't know, because if the  
8   Commission were to adopt one of the many  
9   proposals that -- that NEM export that leads  
10  to avoided cost, even in NRDC's proposal with  
11  the grid benefit charge, you do see the  
12  lesser savings than in the NEM 2.0 case.  And  
13  in that scenario, if you on-bill finance a  
14  solar system, it'll take a lot longer to  
15  recoup the investment.  And then the question  
16  is how much is the customer really saving.  
17  Sure, they have a solar panel on their roof.  
18  But, if the customer isn't going to see  
19  decreased bill amounts under a new NEM tariff  
20  that are substantial enough to materially  
21  improve their lives, is it worth going  
22  through a complicated financing program with  
23  third-party implementers and sharing profit  
24  to achieve that.  I don't know the answer to  
25  that.  Should it be considered?  Sure.

26          Q    Okay.  All right.  Thank you.  I  
27  think I have -- actually, I can eliminate the  
28  uncertainty there.  I have no further

1 questions.

2 A Thank you.

3 ALJ HYMES: Thank you. Any redirect?

4 MR. LINDH: No, your Honor. I think  
5 that's a wrap, other than questions that you  
6 might have. Thank you.

7 ALJ HYMES: I actually just have one  
8 quick question. Let me just bring that up  
9 for a second.

10 So in -- in your opening testimony,  
11 you are talking about your grid benefits  
12 charge, and you say that NRDC is open to  
13 other evidence-based analysis or other  
14 mechanisms, like a minimum bill.

15 Did you either evaluate the minimum  
16 bill or any other mechanisms?

17 THE WITNESS: Your Honor, I thought  
18 hardest about the minimum bill, and the  
19 reason why that wasn't the top preference is  
20 because it's hard to make it progressive. So  
21 if you have, say, a minimum bill of \$40 that  
22 applies to everybody, firstly, that applies  
23 to folks from different income classes and  
24 different house sizes. Right? And then if  
25 smaller homes see a minimum bill of, say, \$40  
26 a month, then they're disincentivized. So  
27 again, then a NEM policy will encourage  
28 people with bigger homes only to install

1 solar. So it was harder to make it  
2 progressive. It is more feasible, given  
3 Commission's history and how it's done  
4 billing in the past in that manner, but it  
5 was harder to make it progressive, and  
6 sometimes it might not be as accurate,  
7 because a minimum bill only kicks in if  
8 you convince -- if your end bill is less than  
9 that amount, and that doesn't always provide  
10 certainty that customers are paying their  
11 fair share of grid cost. So it is easier to  
12 implement, but it's a lot (inaudible), may  
13 not be as accurate, and it's harder to make  
14 progressive. But, they're easier to  
15 implement things, deserves to be underlined  
16 and bolded, for sure.

17 ALJ HYMES: Okay. Thank you. That's  
18 all the questions I have.

19 And Mr. Lindh, did you have any  
20 follow-up?

21 MR. LINDH: No, thank you, your Honor.

22 ALJ HYMES: Okay. Thank you.

23 Mr. Chhabra, you are dismissed.  
24 Thank you.

25 Let's be off the record.

26 (Off the record.)

27 ALJ HYMES: We will be back on the  
28 record.

1           At this time, I will entertain any  
2 motions for -- well, actually, while we were  
3 off the record, I asked parties who would  
4 like to provide a motion to enter -- to admit  
5 exhibits into the record, and I have a list  
6 of names, and I will call upon them one --  
7 one at a time.

8           Mr. Freedman.

9           MR. FREEDMAN: Thank you, your Honor.  
10 Matt Freedman on behalf of TURN.

11           We would move to admit the following  
12 exhibits into evidence: TRN-01, TRN-02,  
13 TRN-03, TRN-04, and TRN-05, all of which are  
14 sponsored by TURN witness, Michelle Chait.  
15 In addition, we would move to admit Exhibits  
16 TRN-13, TRN-14, and TRN-15, which were used  
17 yesterday as cross-examination exhibits with  
18 SEIA Witnesses Giese and Gallagher.

19           ALJ HYMES: Thank you. Are there any  
20 objections to receiving these documents that  
21 Mr. Freedman just stated into the record?

22           (No response.)

23           ALJ HYMES: Hearing no objections and  
24 seeing no objections, the list of exhibits  
25 from TURN that Mr. Freedman just listed are  
26 received into the record.

27           (Exhibit Nos. TRN-01, TRN-02,  
28 TRN-03, TRN-04, TRN-05, TRN-13,  
TRN-14, TRN-15, were received into  
evidence.)



1 ALJ HYMES: Mr. Weidman.

2 MR. WEIDMAN: Thank you, your Honor.

3 I request that we move CCSA Exhibit  
4 CCS-01 and CCS-03, which are the testimony  
5 and rebuttal testimony of Brandon Smithwood  
6 on behalf of CCSA, respectively, and CCS-02  
7 and CCS-04, which are the rebuttal -- sorry,  
8 opening and rebuttal testimony of Mark Fulmer  
9 on behalf of CCSA, respectively.

10 ALJ HYMES: Thank you. Are there any  
11 objections to receiving CCS-01 through and  
12 including CCS-04 into the record?

13 (No response.)

14 ALJ HYMES: Hearing and seeing no  
15 objections, CCS-01 through 04 are received  
16 into the record. Thank you.

17 (Exhibit Nos. CCS-01, CCS-02,  
18 CCS-03, CCS-04 were received into  
evidence.)

19 ALJ HYMES: Mr. Lindl.

20 MR. LINDL: Thank you, your Honor. Tim  
21 Lindl on behalf of the California Solar and  
22 Storage Association.

23 We move to admit Exhibit CSA-26 and  
24 CSA-28 into the record, which were cross  
25 exhibits for yesterday for Dr. Shirmohammadi,  
26 the CalWEA witness, and then we would also  
27 move to admit Exhibit CSA-29, 30, 31, 32, and  
28 that is it. Those are cross exhibits that

1 were used with NRDC Witness Mohit Chhabra.

2 ALJ HYMES: Thank you. Are there any  
3 objections to receiving the exhibits that  
4 Mr. Lindl just listed?

5 (No response.)

6 ALJ HYMES: Hearing and seeing no  
7 objections, CSA-26, CSA-28, CSA-29, CSA-30,  
8 CSA-31, and CSA-32 are received into the  
9 record.

10 (Exhibit Nos. CSA-26, CSA-28,  
11 CSA-29, CSA-30, CSA-31, CSA-32 were  
received into evidence.)

12 ALJ HYMES: Ms. Armstrong.

13 MS. ARMSTRONG: Yes. SEIA and Vote  
14 Solar would move into the record Exhibit  
15 SVS-01, which is the testimony of Sean  
16 Gallagher on behalf of SEIA and Vote Solar,  
17 and Exhibit SVS-02, which is the testimony of  
18 Will Giese on behalf of -- of SEIA and Vote  
19 Solar.

20 ALJ HYMES: Are there any objections to  
21 receiving SVS-01 and SVS-02 into the record?

22 (No response.)

23 ALJ HYMES: Hearing and seeing no  
24 objections, SVS-01 and SVS-02 are received  
25 into the record.

26 (Exhibit Nos. SVS-01, SVS-02 were  
27 received into evidence.)

28 ALJ HYMES: Mr. Lindh.

1 MR. LINDH: Thank you, your Honor.

2 On behalf of Natural Resources  
3 Defense Council, I would like to move for the  
4 admission of Exhibit Number NRD-01, the  
5 opening testimony of Mr. Chhabra, and NRD-02,  
6 the rebuttal testimony of Mr. Chhabra. Thank  
7 you.

8 ALJ HYMES: Thank you. Are there any  
9 objections to receiving NRD-01 and NRD-02  
10 into the record?

11 (No response.)

12 ALJ HYMES: Hearing and seeing no  
13 objections, NRD-01 and NRD-02 are received  
14 into the record.

15 (Exhibit Nos. NRD-01, NRD-02 were  
16 received into evidence.)

17 ALJ HYMES: Ms. Berrio Hayward.

18 MS. BERRIO HAYWARD: Thank you, Judge  
19 Hymes.

20 SBUA would like to move to admit the  
21 following exhibits into the record: SBU-01,  
22 SBU-02, SBU-03, SBU-04, SBU-05, SBU-06,  
23 SBU-07, and SBU-08, which consists of the  
24 prepared opening testimony and attachments  
25 and the prepared rebuttal testimony prepared  
26 and sponsored by today's witness panel  
27 comprised of Mr. Paul Chernick and Mr. John  
28 Wilson.

1 ALJ HYMES: Thank you. Are there any  
2 objections to receiving SBU-01 through and  
3 including SBU-08 into the record?

4 (No response.)

5 ALJ HYMES: Hearing and seeing no  
6 objections, SBU-01 through and including  
7 SBU-08 are received into the record.

8 (Exhibit Nos. SBU-01, SBU-02,  
9 SBU-03, SBU-04, SBU-05, SBU-06,  
10 SBU-07, SBU-08 were received into  
evidence.)

11 MS. BERRIO HAYWARD: Thank you, your  
12 Honor.

13 ALJ HYMES: Ms. Folk.

14 MS. FOLK: Thank you, your Honor.  
15 Ellison Folk on behalf of Protect Our  
16 Communities Foundation.

17 And Protect Our Communities  
18 Foundation moves into the record PCF  
19 Exhibit 24, PCF Exhibit 25, PCF Exhibit 33,  
20 and PCF Exhibit 66, which constitute the  
21 opening testimony of Bill Powers and  
22 supporting documents. We also have a cross  
23 exhibit, which is PCF-66, that was used for  
24 the cross of Ms. Chait and Mr. Chhabra, and  
25 we would move that into the record.

26 I understand there was an issue with  
27 the labeling of the document, which was  
28 originally submitted as a document in support

1 of opening testimony, and if you would  
2 prefer, we can relabel it; but, I think we  
3 should keep the numbers the same.

4 ALJ HYMES: I agree.

5 MS. FOLK: Okay.

6 ALJ HYMES: Are there any objections to  
7 receiving PCF-24, PCF-25, PCF-33, and  
8 PCF-62 -- excuse me, 66, into the record?

9 MS. FOLK: And just to clarify, the  
10 PCF-64, as well.

11 ALJ HYMES: And PCF-64.

12 (No response.)

13 ALJ HYMES: Hearing and seeing no  
14 objections, PCF-24, PCF-25, PCF-33, PCF-64,  
15 and PCF-66 are received into the record.

16 (Exhibit Nos. PCF-24, PCF-25,  
17 PCF-33, PCF-64, PCF-66 were received  
into evidence.)

18 ALJ HYMES: Mr. Boyd.

19 MR. BOYD: Your Honor, myself, the  
20 carrier, request admission of CRE-11 into the  
21 record.

22 ALJ HYMES: Thank you. Are there any  
23 objections to receiving CRE-11 into the  
24 record?

25 (No response.)

26 ALJ HYMES: Hearing and seeing no  
27 objections, CRE-11 is received into the  
28 record.

1 (Exhibit No. CRE-11 was received  
2 into evidence.)

3 ALJ HYMES: And finally, Mr. Barnes.

4 MR. BARNES: Thank you, your Honor.

5 I move into evidence a cross exhibit  
6 for Mr. Fulmer identified as Exhibit IOU-14.

7 ALJ HYMES: Are there any objections to  
8 receiving IOU-14 into the record?

9 (No response.)

10 ALJ HYMES: Hearing and seeing no  
11 objections, IOU-14 is received into the  
12 record.

13 Thank you, Mr. Barnes.

14 (Exhibit No. IOU-14 was received  
15 into evidence.)

16 ALJ HYMES: All right. At this time, I  
17 just want to quickly state that we will be  
18 back here Monday morning at 10:00 a.m., but  
19 all attendees should be prepared to be here  
20 at 9:30. We will begin with Witnesses Wright  
21 and McCann, followed by the panel of  
22 Gutierrez and Chau. I just want to make sure  
23 that everyone is prepared -- or that the  
24 panel of Gutierrez and Chau is prepared to go  
25 over into Tuesday, August 10th.

26 Are there any further matters to be  
27 addressed? Please raise your hand.

28 (No response.)

1           ALJ HYMES:   Okay.   Seeing no hands, we  
2   are adjourned to Monday, August 9th, at  
3   10:00 a.m.

4           We'll be off the record.

5           (Whereupon, at the hour of 5:12  
6   p.m., this matter having been continued  
7   to 10:00 a.m., August 9, 2021, the  
8   Commission then adjourned.)                                 ]

9                                 \*   \*   \*   \*   \*

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, ANDREA L. ROSS, CERTIFIED SHORTHAND REPORTER  
NO. 7896, IN AND FOR THE STATE OF CALIFORNIA, DO  
HEREBY CERTIFY THAT THE PAGES OF THIS TRANSCRIPT  
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TRANSCRIPT OF THE TESTIMONY AND PROCEEDINGS HELD IN  
THIS MATTER ON AUGUST 6, 2021.

I FURTHER CERTIFY THAT I HAVE NO INTEREST IN THE  
EVENTS OF THE MATTER OR THE OUTCOME OF THE PROCEEDING.

EXECUTED THIS AUGUST 13, 2021.

A handwritten signature in black ink, reading "Andrea L. Ross". The signature is written in a cursive style with a large, looping "R".

ANDREA L. ROSS  
CSR NO. 7896



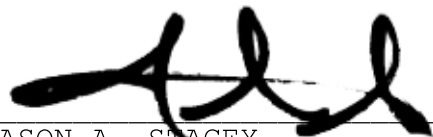
BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, JASON STACEY, CERTIFIED SHORTHAND REPORTER  
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EVENTS OF THE MATTER OR THE OUTCOME OF THE PROCEEDING.

EXECUTED THIS AUGUST 13, 2021.

A handwritten signature in black ink, appearing to read 'JAS STACEY', written over a horizontal line.

JASON A. STACEY  
CSR NO. 14092

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF CALIFORNIA

CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, REBEKAH L. DE ROSA, CERTIFIED SHORTHAND  
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EXECUTED THIS AUGUST 13, 2021.

  
REBEKAH L. DE ROSA  
CSR NO. 8708

<u>\$</u>	<u>0</u>	<u>10th</u> 1872:25	1837:7 1854:21
<b>\$10</b> 1795:1	<b>025</b> 1665:19	<b>11</b> 1689:17 1745:10 1768:13 1809:22 1810:2,3	<b>2.0</b> 1730:17,25 1731:15 1739:18,22 1740:1,24 1745:9 1750:8 1794:14 1795:17 1797:16,18 1799:27 1800:1,2 1801:3,22,28 1802:1 1803:5 1849:16,20 1850:5 1851:3,6,10,25 1852:5 1854:19 1855:2 1861:8 1863:12
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<b>\$118</b> 1797:7	<b>04</b> 1867:15	<b>1139</b> 1804:10,15	<b>2.2</b> 1800:11
<b>\$121</b> 1690:28		<b>12</b> 1707:23 1708:4	<b>20</b> 1685:28 1689:14 1728:10 1744:16 1767:17 1768:8 1770:7 1799:9,10 1814:12 1860:4 1862:17
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<b>\$2</b> 1671:23	<b>1,000</b> 1705:4	<b>14</b> 1718:7 1775:15 1776:7	<b>2009</b> 1681:7 1682:3
<b>\$2,000</b> 1784:17	<b>1,229</b> 1705:5,17 1708:7	<b>143</b> 1796:22	<b>2015</b> 1667:4
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