

Company: San Diego Gas & Electric Company (U 902 E)  
Proceeding: Rate Design – Residential Rate Structures  
Rulemaking: R.12-06-013  
Exhibit: \_\_\_\_\_

**PREPARED REBUTTAL TESTIMONY OF**  
**CHRIS YUNKER**  
**CHAPTER 3**  
**ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION**  
**OF THE STATE OF CALIFORNIA**

**October 17, 2014**



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**PREPARED REBUTTAL TESTIMONY OF  
CHRIS YUNKER  
CHAPTER 3**

**I. OVERVIEW AND PURPOSE**

The purpose of my rebuttal testimony is to respond to the prepared direct testimony submitted by intervening parties in Phase 1 for post-2014 residential rates in Rulemaking (“R.”) 12-06-013, *Order Instituting Rulemaking on the Commission’s Own Motion to Conduct a Comprehensive Examination of Investor Owned Electric Utilities’ Residential Rate Structures, the Transition to Time Varying and Dynamic Rates, and Other Statutory Obligations* (“RROIR”), on assertions raised related to SDG&E’s proposals and their alignment with the California Public Utilities Commission (“Commission” or “CPUC”) stated rate design goals. Specifically, my testimony will respond to issues raised by intervenor parties that either have already been addressed or are already being addressed in other proceedings (e.g., solar payback, time-of-use (“TOU”) periods)<sup>1</sup>, and address narrowly defined perspectives on conservation that have been presented by various intervenors that unnecessarily focus on promoting inaccurate price signals in order to maximize conservation incentives for only approximately 30% of SDG&E’s residential sales, while creating artificially suppressed incentives for the nearly 70%.<sup>2</sup>

Moving to more accurate price signals by flattening the tiers will create meaningful opportunities for all residential customers to better understand how they use electricity, when they use electricity, and better understand the cost of service associated with their electricity use,

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<sup>1</sup> Prepared Testimony of James Barsimantov on Behalf of Sierra Club Regarding Residential Rate Design Reform pp. 1, 4.

Prepared Testimony of Adam Gerza on Behalf of the California Solar Energy Industries Association pp. 2, 5  
Environmental Defense Fund Pre-Files Testimony of Dr. James Fine Rulemaking 12-06-013, Phase 1 pp. 12.

<sup>2</sup> Direct Testimony of Paul Chernick of Behalf of the Natural Resources Defense Council pp. 2, 4-5.

Prepared Direct Testimony of Barry Friedman on Behalf of the Alliance for Solar Choice pp. 4.

Prepared Direct Testimony of R. Thomas Beach on behalf of the Solar Energy Industries Association pp. 15.

1 empowering a larger percentage of customers to focus on economically efficient conservation and  
2 demand response and to participate in the emerging green economy in ways that promote  
3 efficiencies and equity to the benefit of all customers. Moreover, SDG&E’s transition to more  
4 accurate price signals does nothing to bar more targeted and cost effective programs to achieve state  
5 Energy Efficiency (“EE”) and Demand Response (“DR”) policy goals, and in fact creates more  
6 meaningful opportunities to pursue those programs for 100% of the demand of SDG&E’s residential  
7 customers. By contrast, high tier differentials focus on a minority of residential electricity sales,  
8 would achieve no material difference in overall conservation, as explained by witness Dr. Ahmad  
9 Faruqui<sup>3</sup>. Coupling more accurate price signals with a direct incentive would ensure that all  
10 customers have access to, and reasons to pursue, conservation and demand response in ways that  
11 maximize efficiencies in a way that benefits all energy consumers.

12 Solar Parties also include a number of issues that are either being addressed in other  
13 proceedings or are in scope in concurrent proceedings. With regard to where TOU periods should be  
14 addressed, the Administrative Law Judge (“ALJ”) presiding over SDG&E’s 2015 Rate Design  
15 Window (“RDW”) proceeding (Application (A.) 14-01-027) has previously ruled that TOU periods  
16 are in scope in that proceeding<sup>4</sup>. In addition, the impact on customer’s payback with regards to  
17 solar investment has been taken into account in the Net Energy Metering (“NEM”) grandfathering  
18 decisions for customers up to the cap and is being considered in the NEM 2.0 proceeding for  
19 customers who install solar after the cap is reached<sup>5</sup>.

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<sup>3</sup> SDG&E testimony of Dr. Ahmad Faruqui., pp. 19

<sup>4</sup> May 15, 2014 Scoping Memo and Ruling of Assigned Commissioner issued in SDG&E’s 2015 RDW Application (A.14-01-027).

<sup>5</sup> NEM 2.0 questions set forth in Attachment A to the September 5, 2014 Ruling of ALJ Simon; modeling evaluation measures in question B.3.c. *Renewable DG value proposition (e.g. IRR \$, payback period (years))*

1 My testimony is organized as follows:

- 2 • Section II: Adoption of SDG&E’s Proposed Customer Charge will Reduce Subsidies,  
3 More Accurately Inform Customers, and Lay the Foundation Necessary for Emerging  
4 Competitive Markets
- 5 • Section III: Tiered Rate Reform will Better Inform Customers without Adversely  
6 Impacting Conservation
- 7 • Section IV: SDG&E’s Optional TOU Rate Proposals Encourage Needed  
8 Conservation but Should not be Subject to Unreasonable Targets
- 9 • Section V: Conclusion and Summary

10 **II. ADOPTION OF SDG&E’S PROPOSED CUSTOMER CHARGE WILL REDUCE**  
11 **SUBSIDIES, MORE ACCURATELY INFORM CUSTOMERS, AND LAY THE**  
12 **FOUNDATION NECESSARY FOR EMERGING COMPETITIVE MARKETS**

13 In its testimony, the Office of Ratepayer Advocates (“ORA”) has expressed the view that  
14 fixed customer charges are not typically employed in competitive markets<sup>6</sup>. This testimony, as well  
15 as testimony in opposition to a customer charge that has been submitted by others<sup>7</sup>, misses the mark;  
16 the energy industry is one in which competitive alternatives are emerging for some, but not all  
17 customers. These market conditions create a heightened need for rates that are based on cost  
18 causation principles to better inform and protect customers as this transition takes place.

19 Under the current market conditions, which include emerging distributed competitive  
20 alternatives to various services that have been traditionally provided by utilities, a failure to  
21 implement utility rates that recover costs in the same manner in which they have been incurred  
22 creates opportunities for customers to achieve savings, by making investments that allow them to  
23 avoid costs that have been incurred on their behalf, shifting those costs to other customers. The

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<sup>6</sup> Opening Testimony of ORA on 2015 Rates and Beyond, Christopher Danforth, Chapter 2, pp. 2-2 through 2-4.

<sup>7</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 4-5;  
Prepared Testimony of Henry J. Contreras Addressing Affordability Issues in Long-Term Rate Design for Vulnerable Consumers R.12-06-013 (Phase 1), pp. 25-26.

1 result would be a shifting, rather than reduction, in overall costs. At the same time, customers would  
2 be deprived of information that could more accurately inform them regarding the actual cost  
3 associated with how and when they use electricity as well as the costs associated with maintaining a  
4 utility grid interconnection that would otherwise empower them to engage in economically efficient  
5 EE, DR and Distributed Energy Resources (“DER”) investments.

6 For these reasons, the proper perspective to be employed in assessing whether a customer  
7 charge should be adopted to address current market conditions should be what is necessary to meet  
8 the needs of an emerging competitive market in a way that empowers customers with accurate  
9 information, enables more effective and direct incentives to achieve conservation, and promotes  
10 fairness to customers that may not be able to make investments in DER or otherwise take advantage  
11 of inaccurate price signals to pursue cost avoidance, rather than economically efficient energy  
12 savings opportunities that would benefit the environment and all energy consumers.

13 **III. TIERED RATE REFORM WILL BETTER INFORM CUSTOMERS WITHOUT**  
14 **ADVERSELY IMPACTING CONSERVATION**

15 **A. For SDG&E, a 2-Tiered Proposal Provides a Smoother Transition Path relative**  
16 **to a 3-Tiered Transition Path**

17 TURN proposes a 3-Tiered structure with no customer charge for SDG&E<sup>8</sup>. This is despite  
18 the fact that TURN acknowledges that it has not looked at SDG&E specifically and has simply based  
19 its recommendation on analysis TURN has conducted for PG&E and SCE.<sup>9</sup> It is important to note  
20 that other parties support SDG&E’s proposal of a two tiered structure given the unique nature of

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<sup>8</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 3

<sup>9</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 33

1 SDG&E’s existing rate design, which is more conducive to a two tiered structure than a three tiered  
2 structure today.

3 As is noted by UCAN on page 11 of the direct testimony of D. Croyle:

4  
5 *“In examining the customer bill impacts for SDG&E, the consequences of moving to a two-*  
6 *tier rate were not severe during the transition, i.e., during the transformation of the*  
7 *residential DR tiered rate to a structure more closely aligned with costs. One reason is the*  
8 *fact that the first two tiers and the upper two tiers were already so close in price to each*  
9 *other that making the short leap from four tiers to two tiers was actually an easier transition*  
10 *than moving to three or from four to three and then to two.”*

11  
12 SDG&E agrees with UCAN. As noted in my Direct Testimony, SDG&E’s upper and lower  
13 tiers are so close together (i.e. difference from Tier 1 to Tier 2 and Tier 3 to Tier 4), relative to the  
14 spread between the upper and lower tiers (i.e. difference from Tier 2 to Tier 3), that SDG&E’s  
15 current structure is already effectively a two tier structure.<sup>10</sup> The fact that SDG&E’s current  
16 structure is close to a two tier structure is previously depicted in my direct testimony in this  
17 proceeding.<sup>11</sup>

18 **B. Tiered Rate Reform Will Increase Conservation Incentives for nearly 70% of**  
19 **SDG&E’s Residential Sales, Will Not Have Any Material Adverse Impact on**  
20 **Overall Conservation, and Allow Conservation to be More Effectively Targeted**  
21 **through Direct Incentives**

22 Several parties have argued or implied that tiers support conservation and/or serve some  
23 broader undetermined purpose. As is discussed in the Joint Rebuttal Testimony of witness Dr.  
24 Ahmad Faruqui as well as the Rebuttal Testimony of Leslie Willoughby, Inclining Block Rates  
25 (“IBR”) does not materially change conservation relative to SDG&E’s two tier proposal. In addition  
26 when examining the Commission rate design goals, it is evident that a two tier system with a 20%  
27 differential better serves all customers than a three tiered system with higher differentials.

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<sup>10</sup> Prepared Direct Testimony of Chris Yunker, Chapter 1, pp. 17-18, lines 23-24 and 1-2

<sup>11</sup> Prepared Direct Testimony of Chris Yunker, Chapter 1, Chart CY-1, p. 16

1 TURN states that analysis by Dr. Ahmad Faruqui suggests that IBR supports energy  
2 conservation.<sup>12</sup> As noted by witness Dr. Ahmad Faruqui, the proposed residential tier rate reform  
3 does not have a material impact on conservation one way or the other<sup>13</sup>. As Dr. Ahmad Faruqui  
4 notes, a reason for this is that SDG&E's proposal increases the conservation for nearly 70% of  
5 SDG&E's residential sales<sup>14</sup>.

6 Sacramento Municipal Utility District ("SMUD") has also found that conservation benefits  
7 of IBR are questionable and that IBR also prevents equitable recovery of costs which creates a  
8 division between low and high use customers. SMUD's 2013 General Manager's Report and  
9 Recommendation the conservation benefit of tiers is called into question:

10 *"Even though the "tiered" structure does not properly reflect the cost to serve individual*  
11 *customers, SMUD and other California utilities implemented this rate design to encourage*  
12 *conservation. In recent years, several studies using utility-level customer data have found*  
13 *that this structure has no measurable impact on conservation."*<sup>15</sup>

14 The report then goes on to frame the problem as a disconnect between rates and cost  
15 causation, which is also inconsistent with Commission Rate Design Principle 3, as follows:

16 *"The problem is that the tiered rate structure distorts equitable cost recovery. It sets up a*  
17 *counter-productive dynamic in which SMUD must rely on large energy users to support*  
18 *smaller users and, ultimately, to collect a disproportionate amount of the fixed costs*  
19 *associated with this rate class."*<sup>16</sup>

20 SMUD's report continues by proposing to flatten the tiers to remedy the issue:

21 *"In the meantime, we are proposing to reduce the price spread between the existing tiers –*  
22 *"Tier Convergence" – until 2017 when we would charge a single price per kilowatt-hour for*  
23 *all energy used in a month."*<sup>17</sup>

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<sup>12</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 38

<sup>13</sup> SDG&E Testimony of Dr. Ahmad Faruqui, pp. 19 and 24

<sup>14</sup> SDG&E Testimony of Dr. Ahmad Faruqui, pp. 19 and 24

<sup>15</sup> SMUD – General Manager's Report and Recommendation; Page 13; 2. Tier Convergence

<sup>16</sup> SMUD – General Manager's Report and Recommendation; Page 13; 2. Tier Convergence

<sup>17</sup> SMUD – General Manager's Report and Recommendation; Page 13; 2. Tier Convergence



1 While UCAN supports a two tier structure, it proposes a 30% differential in 2018 as opposed  
2 to SDG&E's proposal for 20%. UCAN offers little support for 30% other than it is greater than  
3 SDG&E's proposal of 20%. On Page 43 of the Direct Testimony of David Croyle, UCAN states:

4 *"There has been no economic justification provided for the 20 percent differential and*  
5 *therefore, since SDG&E has indicated that it is not equivalent to cost alignment, there is no*  
6 *reason to assume that a different tier differential would not be equally valid. Clearly, no tiers*  
7 *is the only cost based structure. So the value of a tier differential must have some other basis,*  
8 *e.g., conservation incentive, or discount to low-usage customers. But SDG&E has offered no*  
9 *such justification for the 20 percent. The pilot period could offer the time to investigate how*  
10 *the tier price differential affects customer out-migration."*

11 UCAN's point that a rate structure with no tiers is closer to cost based rates is important to  
12 note. It implies that differentials in IBR create a divide in the sales, and between residential  
13 customers, for another purpose other than cost causation, inconsistent with Commission Rate Design  
14 Principle 3. Parties who argue for IBR for conservation purposes are proposing a structure that  
15 creates a divide between high and low use customers that reduces the economic benefit of a low use  
16 customer's participation in energy conservation. Parties who argue for higher differentials than  
17 necessary are arguing about how wide the divide in the economic benefit that can be achieved  
18 through EE measures between high and low use customers should be.

19 The Direct Testimony of J. Barsimantov of the Sierra Club provides evidence of this division  
20 between customers in their analysis of the impact on energy efficiency upgrades. The example used  
21 by this witness of simple payback for LED lighting highlights the fact that customers receive  
22 different paybacks because of the high tier differentials.

23 *Customers who currently see a payback between 1 and 1.5 years for an LED retrofit would*  
24 *see their payback period increase by an average of 1 year under proposed tier rates, and 9*  
25 *months under proposed TOU rates. Customers who currently see a payback between 1.5 and*  
26 *2 years would see their payback period increase by an average of 0.67 years under proposed*  
27 *tier rates, and 6months under proposed TOU rates.*<sup>18</sup>

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<sup>18</sup> Testimony of James Barsimantov on Behalf of Sierra Club Page 20 lines 17 through 19

1 A driver of the difference in payback periods is the differentials in the tiered rate structure.  
 2 The higher the differential is in the IBR, the greater the disparity in economic benefit between the  
 3 high and low use customer groups for pursuing energy efficiency. The lower the differential the  
 4 more similar the economic benefit is between customers divided by the tiers.

5 To overcome this divide in economic incentives between low and high use customers, if a  
 6 direct incentive such as a rebate was sized to encourage low use customers to adopt light-emitting  
 7 diode (“LED”) lights it would ultimately provide an unnecessarily large windfall under the current  
 8 tier structure to high use, high tier customers.

9 Below is a simple example that illustrates the payback of installing an LED light bulb taking  
 10 into account a direct incentive or rebate. Based on the current rate design, there is an obvious  
 11 disparity in the economic benefit of installing an LED light bulb between lower tier and upper tier  
 12 customers. Under SDG&E’s proposal this disparity is significantly reduced.

13 **CY - Table 1**

	Current	Proposed 2018	
Incandescent Bulb	60	60	Watts
LED Bulb	13	13	Watts
Incremental per Bulb Watt Reduction	47	47	Watts
Lighting Hours per Day*	1.5	1.5	
Lighting Hours per Year	548	548	hrs
Lighting kWh Reduction per year	26	26	kWh
Tier 1	0.16	0.19	\$/kWh - Seasonal Average
<b>Annual Tier 1 Benefit</b>	<b>\$ 4.24</b>	<b>\$ 4.84</b>	
Highest Tier Rate (Tier 4 today, Tier 2 Proposed)	0.37	0.23	\$/kWh - Seasonal Average
<b>Annual Highest Tier Benefit</b>	<b>\$ 9.56</b>	<b>\$ 5.81</b>	

\*Final Evaluation Report: Upstream Lighting Program,  
 Prepared for: California Public Utilities Commission, Energy Division, February 8, 2010; Table 18

1 The foregoing table shows that reducing the differentials in a two-tier structure will increase  
 2 the economic benefit to low use customers to conserve. However, if for whatever reason the  
 3 economic incentive is not deemed sufficient, then an efficiently sized rebate can be provided such  
 4 that a lower tier customer achieves a desired payback that would encourage adoption, for example 2  
 5 years<sup>19</sup>. The table below shows the implied rebate that would need to be provided to achieve a 2  
 6 year payback under today's rates and SDG&E's proposed rates for both upper and lower tier rates.  
 7  
 8

**CY - Table 2**

	Current	Proposed 2018*
Cost of LED Bulb*	\$ 19.65	\$ 19.65
Two Year payback	2	2
<b><u>Tier 1 Customer</u></b>		
Annual Tier 1 Benefit	\$ 4.24	\$ 4.84
Two Year Savings	\$ 8.48	\$ 9.68
<b>Implied Rebate to Achieve 2 Year Payback</b>	<b>\$ 11.17</b>	<b>\$ 9.97</b>
<b><u>Highest Tier Customer</u></b>		
Annual Highest Tier Benefit	\$ 9.56	\$ 5.81
Two Year Savings	\$ 19.11	\$ 11.61
<b>Implied Rebate to Achieve 2 Year Payback</b>	<b>\$ 0.54</b>	<b>\$ 8.04</b>

\* Average min. price for 60 to 65 Watt Equivalent LED Bulb Q1 2014 from Energy Star website;  
[http://www.energystar.gov/index.cfm?c=manuf\\_res.pt\\_lighting#cfls](http://www.energystar.gov/index.cfm?c=manuf_res.pt_lighting#cfls)

9  
 10 Assuming a bulb cost \$19.65 the foregoing table shows that Tier 1 customers would require  
 11 \$11.17 and \$9.97 rebate to achieve a 2 year payback under SDG&E's rates today and the two tier  
 12 proposal respectively. On the other hand, an upper tier customer would require \$0.54 to achieve a 2  
 13 year payback today and a \$8.04 rebate under SDG&E's 2 tier proposal.  
 14

<sup>19</sup> Sierra Club points out that "Under all Utilities' proposed rates, however, no light bulb upgrades can be paid back in less than 2 years."; page 20 lines 14 - 15

1 Under today's structure if SDG&E were to provide a \$11.17 rebate to provide low use  
2 customers the opportunity to participate in lighting conservation it would result in an \$10.63 (the  
3 \$11.17 less the \$0.54 required rebate for 2 year payback) windfall to upper tier customers.

4 Alternatively, under SDG&E's proposal if a \$9.97 rebate was provided so lower tier customers could  
5 achieve a two year payback, the result would be a \$1.94 windfall to upper tier customers (the \$9.97  
6 less the \$8.04 required rebate for the 2 year payback for the highest tier). The \$1.94 windfall is  
7 roughly 5 times less than would exist under today's tier structure, which results in a \$10.63 windfall  
8 to upper tier customers.

9 Despite explicitly calling out that transparent and direct incentives in my direct testimony<sup>20</sup>  
10 as being preferable to subsidies buried in rates, Sierra Club acknowledges that they did not perform  
11 an analysis on how providing a direct incentive could impact the payback period. For example, on p.  
12 48, Sierra Club's testimony states that its air conditioner (AC) model assumed rebate levels "based  
13 on the average AC rebates for SCE..." as follows:

14 ***Did Sierra Club run any sensitivities showing the degree to which increased rebates could***  
15 ***mitigate the claimed reductions in payback periods due to the utilities' rate reform***  
16 ***proposals? If so, what were the results?***

17 *No, Sierra Club did not run sensitivities using increased rebates. Our testimony focused on*  
18 *how payback periods for energy efficient technologies would change under the utilities'*  
19 *proposed rates. If the rebate for an efficient air conditioner were increased, it would shorten*  
20 *the appliance's payback period under both current and proposed rates, but the proposed*  
21 *rates' effect in lengthening payback periods relative to current rates would remain the*  
22 *same.*<sup>21</sup>

23 Today's IBR rates create an unfortunate situation that: (1) creates a divide in the economic  
24 benefit between high and low use customers attributable to EE investments that disadvantages low  
25 use customers, making it less economical for them to make EE investments by reducing the benefits  
26 that they would see and otherwise participate in the emerging green economy; and, (2) ensures that a

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<sup>20</sup> Prepared Direct Testimony of Chris Yunker, Chapter 1, pp. 23, lines 13-16

<sup>21</sup> Sierra Club Response to PG&E Data Request #2, Question 2

1 rebate that is sized to encourage the low use, low tier, customers to participate in the green economy  
2 results in an unnecessary windfall to high use customers, thereby unnecessarily increasing the cost  
3 that must be incurred to achieve the Commission’s conservation policy. While any IBR rate creates  
4 this dynamic to some extent, SDG&E’s proposal with a 20% differential reduces the gap.  
5 Implementation of SDG&E’s proposal will create opportunities for all customers to participate in  
6 energy conservation when coupled with direct incentives, to the extent necessary, while substantially  
7 reducing the windfall to upper tier customers that would result from incentives sized to recruit  
8 participation from low use customers. Distortions in pricing, in particular IBR , creates conservation  
9 discrimination against low use customers and a disproportionately high economic benefits for high  
10 energy users. For this reason, as well as the reasons set forth in the Rebuttal Testimony of Leslie  
11 Willoughby and the Joint Rebuttal Testimony of Dr. Ahmad Faruqui, SDG&E’s proposal to flatten  
12 the tiers would not unreasonably impair incentives for conservation and energy efficiency.

13 **C. The Commission Has Already Taken Steps To Protect Solar Customers From**  
14 **The Potential Impacts Of The Residential Rate Reforms It Has Been Authorized**  
15 **To Implement Under Assembly Bill (“AB”) 327, Including Tier Rate Reform**

16 Solar parties have argued that payback periods for solar customers should be considered in  
17 the examination of tier consolidation.<sup>22</sup> However, the Commission has already taken action to  
18 protect solar NEM customers from the potential impacts of changes that could be adopted under AB  
19 327, including changes to the residential rate structure being addressed in this proceeding. For  
20 example, existing NEM customers as well as all future NEM customers until the NEM 1.0 cap has  
21 been reached, were previously given protection against the potential impacts of residential rate  
22 reform changes that could be adopted, including tier reform, under the Commission’s NEM

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<sup>22</sup> Prepared Testimony of Adam Gerza on Behalf of the California Solar Energy Industries Association pp. 2, 5; Testimony of William A. Monsen on behalf of the Vote Solar Initiative Concerning Residential Electric Rate Design Reform pp. 25.

1 Grandfathering decision resulting from AB 327.<sup>23</sup> The Commission has also already instituted a  
2 proceeding to consider appropriate rules for NEM customers that enroll in NEM after the NEM cap  
3 has been reached in the NEM 2.0 proceeding that is currently pending before the CPUC<sup>24</sup>. Any  
4 issues concerning the potential impact of tier reform, the introduction of fixed charges, or TOU rate  
5 design on the payback period for NEM customers has either already been, or is currently being  
6 addressed, in another proceeding.

7 In D.14-03-041, the Commission adopted a NEM 1.0 grandfathering period that was  
8 specifically designed to ensure that NEM customers are able to receive a positive payback on their  
9 investment with or without the residential rate reforms authorized under AB 327. For example, the  
10 grandfathering proposals of the state’s utilities were rejected on the grounds that, *“the utility*  
11 *estimates cannot account for future changes to the actual electric rates underlying the NEM*  
12 *structure, which the Commission is reviewing in R. 12-06-013, and will be developed in compliance*  
13 *with AB 327. This review is expected to result in significant changes to the residential rate structure,*  
14 *which may reduce the monthly savings from NEM.”*<sup>25</sup> In order to ensure that NEM customers are  
15 protected against the potential impacts of residential rate reforms as well as other conditions, the  
16 Commission intentionally adopted a conservative grandfathering period:

17 *“Given both the limitations of existing estimates of the reasonable payback period, as well*  
18 *as the desirability of ensuring that customers have an opportunity to receive a return*  
19 *somewhat consistent with their expectations, it is reasonable to adopt a transition period that*  
20 *is based on a conservative estimate of the equipment’s expected life, and that ensures*  
21 *reasonable payback that includes some return on the customer’s initial investment.*

22 *For this reason, we adopt a transition period of 20 years for customers enrolling in NEM*  
23 *tariffs before the implementation of the successor tariff. This transition period will apply to*  
24 *customers taking service on a NEM tariff authorized in Code Section 2827, including the*  
25 *Multifamily Affordable Solar. Housing, Single-family Affordable Solar Houses, and Virtual*

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<sup>23</sup> D.14-03-041.

<sup>24</sup> R.14-07-002.

<sup>25</sup> D.14-03-041, pp. 19.

1           *Net Metering tariffs, prior to July 1, 2017, or the date on which a utility reaches its NEM*  
2           *transition trigger level, whichever is earlier.*<sup>26</sup>

3           The 20 year transition period was set after consideration of the potential impacts on a NEM  
4 customer's payback period of the rate reforms that are being considered in this proceeding as well as  
5 the potential impact of those residential rate reforms on a residential NEM customer's solar  
6 economics.

7           Similarly, the payback period for customers who adopt solar after the NEM 1.0 cap is  
8 reached will be addressed in the NEM 2.0 proceeding, R.14-07-002. A decision in this proceeding  
9 will be issued after a decision has been reached in R. 12-06-013, and can be informed by the  
10 residential rate reforms the Commission adopts herein. For these reasons, it would be inappropriate  
11 to base decisions on residential rate reform policies on the potential impacts of those changes on  
12 either NEM 1.0 or NEM 2.0 customers.

13           While it would be inappropriate to base decisions on residential rate reform policies based on  
14 the potential impacts of those changes on either NEM 1.0 or NEM 2.0, it should be noted that the  
15 adoption of fixed charges does not appear to have adversely impacted the residential solar retrofit  
16 market in SMUD's territory. Since the beginning of 2009 the fixed charge has gone from \$5 to \$14  
17 in 2014. During that same time the adoption of solar for residential retrofits has gone from 0.76 MW  
18 and 214 customers in 2009 to a forecasted 7.09 MW and 1,500 customers in 2014.<sup>27</sup>

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19  
<sup>26</sup> D.14-03-041, at p.20

<sup>27</sup> Board of Directors Meeting Agenda Date: October 2, 2014; Attachment A, Table 7 - PV Installed and Expected under SMUO's 581 Program

1 **IV. SDG&E'S OPTIONAL TOU RATE PROPOSALS ENCOURAGE NEEDED**  
2 **CONSERVATION BUT SHOULD NOT BE SUBJECT TO UNREASONABLE**  
3 **TARGETS**

4 **A. SDG&E's Optional TOU Rate Proposals Would Encourage Conservation**  
5 **During Times Of Circuit And System Peak Demand**

6 SDG&E's Optional TOU proposal, which includes a demand differentiated monthly service  
7 fee ("DDMSF"), offers an option for customers to lower their bill by making economically efficient  
8 decisions Rate Design Principle 8 to manage their energy use to reduce coincident and non-  
9 coincident demand Rate Design Principle 5. Nevertheless, several parties have argued against  
10 SDG&E's Optional TOU rate proposal on the grounds that it is inconsistent with the rate design  
11 principles that have been adopted in this proceeding despite the fact that this is would be an optional  
12 rate for customers who choose voluntarily to more closely align the prices they pay to the costs  
13 associated with their electricity use, consistent with the Commission's Rate Design Principles.

14 TURN argues that there should be no demand based charges that more closely align pricing  
15 with a customer's non-coincident demand contrary to Rate Design Principle 5.

16 TURN, and similarly UCAN, further argue that offering a rate closer to cost causation would  
17 allow customers to bypass an inefficient and inaccurate rate design that would otherwise charge  
18 them more, thereby creating a revenue deficiency.

19 ORA, and similarly CforAT and Sierra Club, argue that an optional TOU rate should be  
20 available with a baseline credit, or alternatively a high use surcharge, so as to encourage low use  
21 customers to voluntarily adopt TOU rates, effectively maintaining a current revenue deficiency.

22 SDG&E's Optional TOU rate includes a DDMSF that customers can voluntarily adopt if  
23 they desire to manage their energy use in such a way as to minimize the load that needs to be served  
24 by the grid. TURN opposes this proposal, in part, on the basis of an assertion without supporting  
25 evidence:



1           *“The maximum demand of residential customers, especially when measured over 15*  
2 *minutes, often has little coincidence with periods of system stress. Customers own relatively*  
3 *low load factor appliances and often turn a number of them on at relatively random times*  
4 *(washer, dryer, and a hair dryer for example). ”<sup>28</sup>*

5           TURN then goes on to argue that the concerns of some customers based on a survey in  
6 Ontario is sufficient reason to deny all customers the option of incorporating demand based charges,  
7 despite the Commission’s Rate Design Principle 5, which supports rate design that reduces  
8 coincident and non-coincident demand as follows:

9           *“A recent focus group study in Ontario suggests that residential customers do not*  
10 *understand demand charges and believe that such charges are demanding perfection in their*  
11 *conservation efforts. ”<sup>29</sup>*

12           The support TURN provides for this position is focus groups which addressed concerns  
13 about, *“the concept of maximum use during peak times is difficult for people to understand and*  
14 *raised concern among a few. There is no template for measuring maximum use that people are used*  
15 *to in the way they understand TOU. It was not obvious how this would be calculated.”* The survey  
16 summary then goes on to say that *“Without precise detail of this there was concern expressed by*  
17 ***some** (emphasis added)... ”<sup>30</sup>*

18           TURN’s argument relies on the views of some customers, seemingly without sufficient  
19 education and outreach, having concerns about what demand charges mean as a reason to deny any  
20 and all customers access to a price signal that would further the Commission’s rate design goals.

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<sup>28</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 59

<sup>29</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp 59

<sup>30</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 59

1           TURN and UCAN<sup>31</sup> both assert arguments or concerns that SDG&E’s Optional TOU would  
2 create a revenue deficiency due to the potential for high use customers migrating to a rate that is un-  
3 tiered:

4           *“TURN is concerned that time of use rates will become the “uneconomic bypass of*  
5 *baseline.” For that reason, we believe that it is important to retain a baseline credit in the*  
6 *TOU rate design (and have done so in our illustrative PG&E rates). Otherwise, TOU rates*  
7 *will become de rigeur for large customers avoiding baseline tiers.”<sup>32</sup>*

8           TURN and UCAN express concerns over revenue deficiencies from customers who have  
9 elected to opt into a rate that is more cost-based and that allows them to make economically efficient  
10 decisions and avoid the distorted costs imposed by IBR. This concern ignores the fact that TOU  
11 rates provides a price signals to encourage the reduction of demand during periods of high cost,  
12 compared to tiered rates that fail to create incentives that align with the cost associated with  
13 electricity demand during these hours. The rate also incorporates a DDMSF which encourages  
14 customers to flatten their load.

15           The CPUC included the reduction in coincident and non-coincident demand as one of its ten  
16 Rate Design Principles<sup>33</sup>. SDG&E’s Optional TOU rate includes a price signal that would address  
17 both of these aspects of demand.

18           As stated by SDG&E witness Steve George, the SMUD conducted a study which showed  
19 that customers who optionally signed up for TOU rates reduced their on-peak demand by 11.91%.<sup>34</sup>  
20 SMUD’s experience indicates that customers who optionally adopt TOU rates are likely to respond

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<sup>31</sup> Phase 1 Testimony for Residential Rate Reform Prepared by David R. Croyle, Economist for The Utility Consumers Action Network (UCAN), pp. 21 and Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 66

<sup>32</sup> Prepared Testimony of William B. Marcus and Greg Ruzovan on behalf of The Utility Reform Network in the Report on Long-Term Residential Rate Reform Proposals of Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric Company, pp. 60

<sup>33</sup> Administrative Law Judge’s Ruling Requesting Residential Rate Design Proposals, issued on March 19, 2013, Attachment A – Principles for Rate Design.

<sup>34</sup> SDG&E Phase 1 R.12-06-013 June 30, 2014 Prepared Direct Testimony of Stephen George, p. SG-8.

1 in a way that addresses evening capacity needs going forward which have been identified by SCE,  
2 CAISO and ORA in the 2014 Long Term Procurement Plan Proceeding (R.13-02-010) (“LTPP”)<sup>35</sup>.  
3 This is important as the residential class typically peaks in the evening hours. Residential customer  
4 demand response will be needed to meet system needs in the 4 to 10 pm period.

5 SDG&E’s Optional TOU proposal is also designed to address non-coincident demand by  
6 including a demand differentiated charge that would provide an economic incentive for customers to  
7 flatten their load. Customers who better manage their load they can contribute to lower overall  
8 system costs.

9 ORA<sup>36</sup>, CforAT<sup>37</sup> and Sierra Club<sup>38</sup> argue for the inclusion and/or option of a tiered TOU  
10 rate. The argument centers on concerns that without the continuation of the structural revenue  
11 deficiency that exists in rates today low use customers will either not be encouraged to adopt time of  
12 use rates or will be adversely impacted by not continuing to impose the inaccurate price signal  
13 imposed by IBR on high use customers. Ultimately, a move to rates that align with the  
14 Commission’s rate design goals will require a transition from existing inefficient rate structures.  
15 The testimony of David Croyle for UCAN recognizes that this transition is a necessary step.

16 (c) *“If SDG&E wants to move forward toward efficient pricing, and UCAN believes it*  
17 *does, then it should not overlay what is good about the move to default TOU with the habits*  
18 *of the past.”<sup>39</sup>*

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<sup>35</sup> R.13-02-010; SCE-1,p. 21, Table IV-4; CAISO/Schucheng, p.38, Figure 7; ORA testimony page 7, Table 1

<sup>36</sup> Opening Testimony of ORA On 2015 Rates and Beyond, pp. 5-16, lines 9-11

<sup>37</sup> Prepared Testimony of Henry J. Contreras Addressing Affordability Issues in Long-Term Rate Design For Vulnerable Customers R. 12-06-013 (Phase 1), pp. 26

<sup>38</sup> Prepared Testimony of James Barsimantov on Behalf of Sierra Club Regarding Residential Rate Design Reform, pp. 34, lines 7-9 and pp. 42, lines 2-4

<sup>39</sup> Phase 1 Testimony for Residential Rate Reform, pp. 22

1           **B.      Optional TOU Rates Should Not Be Subject to Unreasonable Adoption Targets**

2           In its testimony, Environmental Defense Fund (“EDF”) argues for high targets in the event  
3 that TOU periods are not required to be default as an end state<sup>40</sup>. Arizona Public Service’s (“APS”)  
4 optional TOU rates are cited as an example of successful adoption of TOU rates because  
5 approximately 30% of APS residential customers participate in this optional offering. However, the  
6 situation confronted by APS renders it a bad basis for formulation of adoption targets for California  
7 utilities. In that regard, it should be recognized that the relatively high rates of TOU adoption  
8 experienced by APS took place over several decades.

9           **C.      TOU PERIODS SHOULD NOT BE ADDRESSED IN THIS PROCEEDING**

10          Several solar parties argue that TOU periods should be addressed in IOU General Rate Case  
11 (“GRC”) Phase 2 applications<sup>41</sup>. The analysis of TOU periods has been scoped in SDG&E’s 2015  
12 RDW<sup>42</sup> as well as addressed in Southern California Edison’s (“SCE”) RDW<sup>43</sup>. Any question as to  
13 where TOU periods should be addressed should be directed to the applications where the TOU  
14 periods were scoped, which is not in this instant proceeding.

15 **V.      CONCLUSION AND SUMMARY**

16          This concludes my testimony.

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<sup>40</sup> Environmental Defense Fund Pre-Files Testimony of Dr. James Fine Rulemaking 12-06-013, Phase 1 pp. 6

<sup>41</sup> Prepared Direct Testimony of Barry Friedman on behalf of the Alliance for Solar Choice pp. 22

Prepared Direct Testimony of R. Thomas Beach on behalf of the Solar Energy Industries Association pp. 31

<sup>42</sup> SDG&E’s 2015 RDW Application (A.14-01-027).

<sup>43</sup> SCE’s RDW Application (A.13-12-015)