



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA

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to Revise Its Electric Marginal Costs, Revenue)
Allocation, and Rate Design.)
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A.16-06-013
(Filed June 30, 2016)

SOUTHERN CALIFORNIA EDISON COMPANY'S (U338-E) PROPOSED
METHODOLOGIES AND CALCULATIONS FOR FIXED COSTS AND FIXED
CHARGES FOR WORKSHOP DISCUSSION

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**SOUTHERN CALIFORNIA EDISON COMPANY'S (U338-E) PROPOSED
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I.

INTRODUCTION

As directed by the California Public Utility Commission (CPUC) in Decision 15-07-001 and further clarifying rulings, a series of workshops on the cost basis, calculations and methodology for determining a potential residential fixed charge will be held in the Pacific Gas & Electric Company's (PG&E) General Rate Case (GRC) Phase 2 proceeding (A.16-06-013). The first fixed charge workshop on October 13, 2016 will focus on the proposals by the Investor-Owned Utilities (IOUs) setting for a cost basis, calculations and methodology for determining a potential fixed customer charge. Pursuant to the direction provided by Administrative Law Judge (ALJ) McKinney at the September 12, 2016 Pre-Hearing Conference, as confirmed by her September 22, 2016 Ruling, SCE hereby submits its "proposed methodologies and calculations for fixed costs and fixed charges in a format comparable to PG&E's Exhibit F." In compliance with ALJ's McKinney's rulings, SCE has also included workpapers (which can be provided in native format upon request), and includes information on how fixed cost and fixed charge

calculations link to its GRC Phase 1 testimony or are derived from the GRC Phase 2 proceedings.

SCE's testimony here is provided in the same format as PG&E's, but provides an additional level of granularity and makes minor clarifications.

A. Marginal Costs:

SCE allocates authorized revenue requirements¹ to customers in rate groups based on marginal cost principles. In each Phase 2 proceeding of the GRC, SCE describes the method in which rigorous cost studies value such costs against the drivers of such costs. Put simply, marginal costs are the change in costs for an additional unit of service or product provided. SCE breaks down marginal costs into two basic categories namely, the *generation* and *delivery* of energy. Generation energy marginal costs and generation capacity marginal costs are categorized to the *generation* function. Distribution design demand marginal costs and customer marginal costs are categorized to the *delivery* function. Cost responsibility is then assigned to rate groups based on each rate group's contribution to the drivers of such costs. For example, generation energy marginal costs are sensitive to the level of load for which supply must meet demand and therefore vary by time throughout the year. As such, a rate group's cost responsibility is based on the time-sensitive nature with which rate groups consume energy (kWh) throughout the year. Once allocation of marginal costs is complete², SCE scales³ such marginal cost revenue responsibility to authorized revenue requirements for the purposes of ratesetting. This method allows SCE to allocate costs to rate groups on the foundational principles of cost causation dictated by such marginal costs, as scaled to recover the authorized revenue requirement set by the Commission in SCE's GRC Phase 1 proceeding or other ratesetting proceedings.

¹ Authorized revenue requirement is the level of revenue that the Commission has deemed appropriate for the utility to recover. Such costs are litigated and approved in GRC Phase 1s and other ratesetting proceedings (*e.g.*, ERRRA).

² Marginal Cost Revenue Responsibility (MCRR) is allocated to rate groups by the functionalized cost components namely: generation and delivery.

³ MCRR is then scaled to the authorized revenue requirement by function, based on an equal percent of marginal costs (EPMC) methodology.

B. Fixed Costs:

For a high fixed-cost business, marginal costs typically represent the variable portion of costs that vary with changes in increments of service or products. The difference in cost between the utility's Commission-approved revenue requirement (i.e., the utility's total authorized costs) and such marginal costs are fixed costs experienced by the utility. It is important to appropriately value fixed costs to ensure their subsequent equitable recovery from customers through potential fixed charges. This ensures that customers receive efficient price signals conveyed by setting other rates closer to marginal costs. Given that the business of generating and delivering power to customers has high fixed costs, it is important to accurately calculate and equitably recover fixed costs in order to sustain the viability of the grid as a resource supporting California's energy policies.

SCE's proposed method of estimating fixed costs is similar in concept to PG&E's, where the level of total fixed costs (Columns (H) and (L) in the supporting workpapers) for a revenue component is defined generally as the difference between the sum of marginal costs and the authorized revenue requirement for that revenue component. The only exception to this general concept comes in the distribution component, where the customer "marginal" costs have been included in the total fixed costs as such costs do not typically vary by usage or demand. The purpose of this workpaper is to set forth SCE's costs based on PG&E's "Exhibit F" format.

Notes:

- 1) SCE has included comparison tables to illustrate the fixed cost calculations based on both its *proposed* level of marginal costs in its 2015 GRC Phase 2 and the finally *settled*⁴ values adopted in that proceeding. It is important to note, however, the settled values for customer marginal costs are only used for the purposes of allocating cost responsibility to rate groups and do not determine the levels at

⁴ 2015 GRC Phase 2 (A.14-06-014) Marginal Cost and Revenue Allocation Settlement Agreement; pp 9-10.

which rates are finally set. Final residential rates are set based on glidepath established in D.15-07-001.

- 2) In this workpaper SCE demonstrates that the generation revenue component marginal costs proposed in the GRC 2015 Phase 2 were higher than the revenue requirement authorized in SCE's 2015 GRC Phase 1. Although mathematically this would result in a negative fixed cost based on the format of calculations in the attached workpaper, SCE has treated such a negative value as zero for that respective revenue component.
- 3) Similar to the Public Purpose Program Charge (PPPC), SCE recommends a more comprehensive review of all non-bypassable revenue components such as nuclear decommissioning charges (NDC), DWR Bond charge, as well as others that do not vary by usage and should therefore be included in the analysis of fixed costs.
- 4) SCE recommends that fixed asset-related revenue components such as Transmission and New System Generation Charge (NSGC) should also be included in an analysis of utility fixed costs.

Respectfully submitted,

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Appendix A

SCE Fixed Cost Showing

2015 GRC Proposed

(A)	(B)	(C) (D) (E) (F)=(C)+(D)+(E)				(G)=(B)-(F)	(H)=(C)+(G)
Residential	June 2016 Revenue Requirement (\$ million)	Marginal Costs (Originally Proposed - 06/2014)				Additional Fixed Costs (\$ million)	Total Fixed Costs (\$ million)
		Customer-Related (\$ million)	Capacity-Related (\$ million)	Energy-Related (\$ million)	Total Marginal Cost (\$ million)		
Distribution	\$2,430	\$644	\$1,093	\$0	\$1,738	\$693	\$1,337
Generation**	\$2,018	\$0	\$1,181	\$1,707	\$2,888	\$0	\$0
PPP*	\$485	\$0	\$0	\$0	\$0	\$485	\$485
Total	\$4,933	\$644	\$2,274	\$1,707	\$4,625	\$1,177	\$1,822
Customer-months	52,139,961	52,139,961	52,139,961	52,139,961	52,139,961	52,139,961	52,139,961
\$/cust-mo	\$94.6	\$12.4	\$43.6	\$32.7	\$88.7	\$22.6	\$34.9

(J)	(K)=(J)-(F)	(L)=(C)+(K)
June 2016 Revenue Requirement (Excludes SONGS refund) (\$ million)	Additional Fixed Costs (\$ million)	Total Fixed Costs (\$ million)
\$2,430	\$693	\$1,337
\$2,376	\$0	\$0
\$485	\$485	\$485
\$5,291	\$1,177	\$1,822
52,139,961	52,139,961	52,139,961
\$101.5	\$22.6	\$34.9

2015 GRC Adopted***

(A)	(B)	(C) (D) (E) (F)=(C)+(D)+(E)				(G)=(B)-(F)	(H)=(C)+(G)
Residential	Revenue Requirement (\$ million)	Marginal Costs				Additional Fixed Costs (\$ million)	Total Fixed Costs (\$ million)
		Customer-Related (\$ million)	Capacity-Related (\$ million)	Energy-Related (\$ million)	Total Marginal Cost (\$ million)		
Distribution	\$2,430	\$417	\$1,231	\$0	\$1,648	\$782	\$1,199
Generation	\$2,018	\$0	\$1,059	\$1,295	\$2,353	\$0	\$0
PPP*	\$485	\$0	\$0	\$0	\$0	\$485	\$485
Total	\$4,933	\$417	\$2,290	\$1,295	\$4,002	\$1,267	\$1,684
Customer-months	52,317,500	52,317,500	52,317,500	52,317,500	52,317,500	52,317,500	52,317,500
\$/cust-mo	\$94.3	\$8.0	\$43.8	\$24.7	\$76.5	\$24.2	\$32.2

(J)	(K)=(J)-(F)	(L)=(C)+(K)
June 2016 Revenue Requirement (Excludes SONGS refund) (\$ million)	Additional Fixed Costs (\$ million)	Total Fixed Costs (\$ million)
\$2,430	\$782	\$1,199
\$2,376	\$22	\$22
\$485	\$485	\$485
\$5,291	\$1,289	\$1,706
52,317,500	52,317,500	52,317,500
\$101.1	\$24.6	\$32.6

Note:

* Similar to PPP, SCE recommends the inclusion of other non-bypassable revenue components such as NDC, CTC, DWR Bond charges etc. in the analysis described above.

** Generation Marginal costs are greater than authorized revenue requirement resulting in a negative fixed charge for this cost component. SCE's recommended change included above in columns (G), (H), (K) and (L) illustrate a floor of zero if the fixed cost for a functionalized revenue component is negative.

*** Adopted marginal cost revenues illustrated above were only used for the purposes of revenue allocation and not for rate setting purposes in the 2015 GRC Phase 2 proceeding.

Columns (J), (K) and (L) illustrate the effect on the fixed cost analysis by adjusting revenue requirement to exclude the one time effect of the SONGS OII refund

SCE recommends a comprehensive review of revenue components such as Transmission and NSGC that could also be included in this analysis.

Appendix B

SCE Residential Customer Marginal Costs

SCE 2015 GRC		Settlement Agreement *
Marginal Customer Costs	SCE Proposed Errata 1-9-2015	
Final Line Transformer (FLT)	\$3.61	
Service Drop	\$4.10	
Meter and Panel	\$1.83	
Customer Service	\$2.49	
O&M	\$0.11	
Collections	\$0.23	
Total \$/Customer Month**	\$12.37	\$7.97

Notes:

* 2015 GRC Phase 2 Marginal Cost and Revenue Allocation Settlement Agreement: TURN's 50:50 NCO: RECC Monthly RECC Customer

** The \$12.37 (\$/cust-mo - 2015\$) in the table above represents the *weighted average of all sub categories* in the Residential class

The customer service costs (Monthly A+B+C in table below) for each group is as follows (2015\$);

- Domestic TOU (\$/cust-yr) = \$32.55 (\$2.71 * 12)
- Domestic Master Metered (\$/cust-yr) = \$163.62 (\$13.64 * 12)
- Single / Multi Family (\$/cust-yr) = \$32.28 (\$2.69 * 12)

The Proposed and Adopted table below details only the Single Family costs

Proposed Residential Distribution Marginal Costs (Single Family)			
[A]	[C]	[C1]	[D]
Marginal Customer Costs	Costs (\$/cust-mo) 2015\$	Costs (\$/cust-yr) 2015\$	Costs (\$ million/yr)
Billing and Customer Service Marginal Costs For 2012			
Meter Services (A)	\$0.09	\$1.08	\$5
Meter Reading (B)	\$0.42	\$5.04	\$22
Customer Service and Billing			\$0
Perform Credit Checks and Manage Deposits			
Billing Exceptions	\$0.34	\$4.08	\$18
Interval Data Management	\$0.00	\$0.00	\$0
Send Monthly Bill	\$0.40	\$4.80	\$21
Process Customer Payment	\$0.13	\$1.56	\$7
Customer Inquires (trouble,billing, turn on/off, payment, misc)	\$0.63	\$7.56	\$33
Field Services	\$0.06	\$0.72	\$3
Collections	\$0.25	\$3.00	\$13
Uncollectibles	\$0.37	\$4.44	\$19
MAEs			
Sub total ('C)	\$2.18	\$26.16	\$114
Monthly (A+B+C)	\$2.69	\$32.28	\$140
Final Line Transformers, Service Drop, Meter and related O&M (D)	\$10.64	\$127.68	\$555
Single Family Monthly (A+B+C+D)	\$13.33	\$159.96	\$695

Customer-months
Customers

52,139,961
4,344,997

Check: \$645
Weighted average of the residential class (single, multi, TOU & master-meter) => \$644

Adopted Residential Distribution Marginal Costs***			
[A]	[B]	[C]	[D]
Marginal Customer Costs	Costs (\$/cust-yr)	Costs (\$/cust-mo)	Costs (\$ million/yr)
Billing and Customer Service Marginal Costs For 2012			
Meter Services (A)			
Meter Reading (B)			
Customer Service and Billing			
Perform Credit Checks and Manage Deposits			
Billing Exceptions			
Interval Data Management			
Send Monthly Bill			
Process Customer Payment			
Customer Inquires (trouble,billing, turn on/off, payment, misc)			
Field Services			
Collections			
Uncollectibles			
MAEs			
Sub total ('C)			
Monthly (A+B+C)	\$30.36	\$2.53	\$132
Final Line Transformers, Service Drop, Meter and related O&M (D)	\$65.28	\$5.44	\$284
Monthly (A+B+C+D)	\$95.64	\$7.97	\$416

Customer-months
Customers

52,139,961
4,344,997

Check: \$417

Notes:

*** Settlement agreement adopted marginal costs illustrated above were only used for the purposes of revenue allocation and not for rate setting purposes.