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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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.	Rulemaking 12-06-013 (Filed June 21, 2012)

ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING RESIDENTIAL RATE DESIGN PROPOSALS

1. Summary

Today's ruling sets forth the requirements for filing residential rate design proposals in this proceeding. Pursuant to the November 26, 2012 Scoping Memo and Ruling of Assigned Commissioner (Scoping Memo), proposals and all supporting evidence are due May 1, 2013. As part of this ruling, we respond to the comments of parties submitted in response to the January 31, 2013 Administrative Law Judges' Ruling on Workshop (Workshop Ruling).

This ruling also addresses two outstanding motions for party status and revises the requirements for serving and filing documents in this proceeding.

2. Procedural History

On June 28, 2012, the Commission instituted this order instituting rulemaking (OIR) to examine current residential electric rate design, including the tier structure in effect for residential customers, the state of time variant and

dynamic pricing, potential pathways from tiers to time variant and dynamic pricing, and preferable residential rate design to be implemented when statutory restrictions are lifted.

Prior to requesting and evaluating rate design proposals from the parties, we attempted to establish consensus (or identify disagreement) in specific areas. Our goal is to establish a common framework and shared understanding of these matters in order to minimize conflicts that arise from misunderstandings pertaining to definitions, assumptions, or technical models. Specifically, we have provided parties the opportunity to comment on (a) principles of optimal residential rate design, (b) bill impact calculators, and (c) definitions of key terms.

On August 27, 2012, the Commission held a workshop to discuss and refine the preliminary questions set forth in the OIR. On September 20, 2012, we issued the Assigned Commissioner and Administrative Law Judges' Joint Ruling Inviting Comments and Scheduling Prehearing Conference (September 20, 2012 Ruling).

In addition to addressing procedural matters, the November 26, 2012 Scoping Memo set forth the revised rate design principles and rate design questions based on the comments solicited by the September 20, 2012 Ruling. The revised rate design principles and rate design questions constitute the instructions for proposing rate designs in this proceeding.

On December 5 and 6, 2012, we held workshops (December Workshop) to address a variety of topics, including an overview of rate design components, discussion of proposed defined terms, presentation and discussion of the bill impact calculators from Pacific Gas and Electric Company, Southern California Edison Company (SCE), and San Diego Gas and Electric Company (SDG&E)

(IOUs), and presentation and discussion of a customer survey proposed by the Joint IOUs.

On January 31, 2013, we issued the Workshop Ruling soliciting comments on the defined terms that had been discussed at the December Workshop. Parties filed comments on February 14, 2013, and reply comments on February 28, 2013.

4.1 Rate Design Proposal Instructions; Safety

The Scoping Memo set forth the Rate Design Proposal Instructions, consisting of the revised rate design principles and rate design questions.

Safe utility service is a touchstone of all Commission actions. Section 451 of the Public Utilities Code requires that "[e]very public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities . . . as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."

Therefore, in addition to the questions previously incorporated into the rate design proposal instructions, we ask that parties address the safety implications of rate design proposals. The following question is added to the list of rate design questions:

> 10. How would your proposed rate design structure impact the safety of electric patrons, employees, and the public?

The complete Rate Design Proposal Instructions are set forth in Attachment A.

4.2 Bill Impact Calculators; Customer Survey

Following the December Workshop, several all-party webinars were held to further discuss the bill impact calculators and the customer survey.

On February 20-21, 2013 each of the IOUs conducted a webinar to review the penultimate version of their respective calculators. Parties discussed final changes to the calculators and parties were requested to submit any additional comments no later than March 1, 2013. Parties were also requested to limit comments to changes that addressed functionality previously agreed to by the IOUs that had not yet been included, technical issues, improvements in formatting and printing, and changes that would not delay release of the final calculators. SDG&E submitted their updated calculator and user guide on March 8, 2013. PG&E and SCE submitted their calculators and user guides on March 11, 2013. The IOUs are expected to distribute final updated versions by March 19, 2013, and additional updates may need to be created if parties discover operational problems with the calculators.

As noted in the Workshop Ruling, the Commission will not officially adopt the bill impact calculators, but we do expect that parties will use the calculators to assess rate design proposals. We expected that the results of these assessments will be offered into the record by the parties relying on them.

The bill impact calculators provide parties with tools that can be used to evaluate the residential and customer bill impacts of several rate structures when compared to current rates and defined cost-of-service levels. The capabilities of the bill impact calculators does not limit possible rate design proposals. Parties should state clearly in their rate design proposals what their proposed rate structure is, whether it is the same or different than the rates shown in the bill impact calculator, as well as how they have made use of the bill impact calculators to support or illustrate their rate design proposal. Use of the bill impact calculators is not mandatory.

Attachment B contains guidelines on using bill impact calculators.

Similarly, the Commission will not be officially adopting or approving the customer survey. The IOUs launched the customer survey on February 29, 2013. We expect that if the parties find the results of the customer survey useful, they will offer them into the record. And we expect that if parties are not satisfied with the survey content or methodology, they will likewise raise those concerns through the comment and briefing process.

4.3 Defined Terms

In response to the Workshop Ruling, the following parties submitted comments suggesting revisions to the defined terms: Black Economic Council, Latino Business Chamber of Greater Los Angeles, National Asian American Coalition (Joint Parties), Consumer Federation of California, California Large Energy Consumers Association (CLECA), Distributed Energy Consumer Advocates, Division of Ratepayer Advocates, Interstate Renewable Energy Council, Inc., SCE, and The Utility Reform Network. On February 28, 2013, SDG&E and CLECA filed reply comments.

In reviewing the comments, we focused on policy neutral changes that provided clarification of the defined terms. We adopted the majority of the suggested changes. We did not, however, accept changes that would impose policy restrictions or restrict the Commission's options on rate design.

The Joint Parties asked for guidance on "equity." We are not defining equity for purposes of this proceeding, but parties may elect to brief how they think equity should be defined. Equitable rate design is often described as a rate design based on cost-causation principles. Other parties, however, may see equity as encompassing income considerations. Parties are free to include their view of equity in their rate design proposals and in their evaluation of other rate design proposals.

Attachment C contains the revised list of defined terms in alphabetical order. Attachment D contains a redline version of the defined terms showing changes made in response to comments.

3. Schedule

The schedule for this proceeding is revised as follows:

Event	Date
Ruling requesting rate design proposals including answering the required questions issued (Note: this Ruling will set forth the definitions to be used based on the workshop and comment cycle)	[March 15, 2013]
Rate Design Proposals served; Last day to file a motion requesting evidentiary hearings.	May 1, 2013
Opening Comments	June 3, 2013
Reply Comments	June 17, 2013
Briefing Cycle	July 2013
Proposed Decision issued	September 2013

As noted in the Scoping Memo, we did not include evidentiary hearings in the schedule for this proceeding. If any party contends that evidentiary hearings are needed to address specific issues, it shall, at the same time as the serving of rate design proposals, file a motion requesting evidentiary hearings. That motion shall:

a. Identify each area of relevant factual inquiry that has not been addressed;
b. Identify each material contested issue of fact on which hearings should be held (explaining, as necessary, why the issue is material); and
c. State why a hearing is legally required.

If so required, the Administrative Law Judge (ALJ) or presiding officer may alter this schedule as required to promote the efficient and fair resolution of the proceeding.

4. Additional Requirements for Filing and Service of Documents

The Scoping Memo set forth the requirements for filing and serving documents. In addition to those instructions, we also direct parties to provide courtesy printed copies of all documents served and filed to the assigned ALJ and to Energy Division. Please send printed versions of the documents to Jeanne McKinney, Administrative Law Judge at 505 Van Ness Avenue, San Francisco, CA 94102 and to Gabe Petlin, Energy Division at 505 Van Ness Avenue, San Francisco, CA 94102.

5. Motions

On January 16, 2013, the Chinese American Institute for Empowerment (CIE) and the Ecumenical Center for Black Church Studies (ECBCS) filed a joint motion to become parties. CIE and ECBCS state that they are interested in participating in this proceeding to ensure that any transition to dynamic pricing is "carried out in a way that is cognizant of the particular challenges faced by communities of color, with a particular emphasis on recent immigrants." CIE and ECBCS state that they will coordinate their participation with the Joint Parties, and that they do not intend to seek intervenor compensation. No responses to the CIE/ECBCS motion were filed.

On January 30, 2013, the Independent Energy Producers Association (IEP) filed a motion to become a party. IEP is nonprofit benefit corporation that represents the interests of developers and operators of renewable and other independent energy resources. IEP is interested in participating in this proceeding because IEP's members will be directly impacted by any changes to the amount, time, and location of demand for electricity in California. IEP states that it intends to be an active participant in the proceeding without expanding

the scope or delaying the proceeding schedule. No responses to the IEP motion were filed.

The Commission requires that a person seeking party status disclose the persons or entities in whose behalf the motion is made, disclose the interest of such persons or entities in the proceeding, state the contentions the party intends to make, and show that the contentions will be reasonably pertinent to the issues already presented. (Rule 1.4(b).)

In light of the foregoing, the CIE/ECBCS motion and the IEP motion are both granted.

Therefore, **IT IS RULED** that:

1. Residential Rate Design Proposals may be filed and are due May 1, 2013. Opening comments on those proposals may be filed and are due June 3, 2013. Reply comments are due June 17, 2013.

2. Any party who believes that the Commission must hold evidentiary hearings on these proposals and the underlying issues shall so state in its comments, and specify the issues requiring hearing as well as why hearings are required. The need for evidentiary hearings will be determined after review of the comments.

3. The motion for party status by Chinese American Institute for Empowerment and the Ecumenical Center for Black Church Studies is granted.

4. The motion for party status by Independent Energy Producers Association is granted.

5. When filing or serving documents in this proceeding, parties must send hard copies to both the assigned Administrative Law Judge and Energy Division.

Dated March 19, 2013, at San Francisco, California.

/s/ JEANNE McKINNEY
Jeanne McKinney
Administrative Law Judge

ATTACHMENT A

Residential Rate Design Proposal Instructions

Principles for Rate Design

1. **Low-income and medical baseline customers should have access to enough electricity to ensure basic needs (such as health and comfort) are met at an affordable cost;**
2. **Rates should be based on marginal cost;**
3. **Rates should be based on cost-causation principles;**
4. **Rates should encourage conservation and energy efficiency;**
5. **Rates should encourage reduction of both coincident and non-coincident peak demand;**
6. **Rates should be stable and understandable and provide customer choice;**
7. **Rates should generally avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals;**
8. **Incentives should be explicit and transparent;**
9. **Rates should encourage economically efficient decision-making;**
10. **Transitions to new rate structures should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and appropriately considers the bill impacts associated with such transitions.**

Questions for Rate Design Proposal

1. Please describe in detail an optimal residential rate design structure based on the principles listed above and the additional principles, if any, that you recommend. For purposes of this exercise, you may assume that there are no legislative restrictions. **Support your proposal with evidence citing research conducted in California or other jurisdictions**.

2. Explain how your proposed rate design meets each principle and compare the performance of your rate design in meeting each principle to current rate design. Please discuss any cross-subsidies potentially resulting from the proposed rate design, including cross-subsidies due to geographic location (such as among climate zones), income, and load profile. Are any such cross-subsidies appropriate based on policy principles? Where trade-offs were made among the principles, explain how you prioritized the principles.

3. How would your proposed rate design affect the value of net energy metered facilities for participants and non-participants compared to current rates?

4. How would your proposed rate design structure meet basic electricity needs of low-income customers and customers with medical needs?

5. What unintended consequences may arise as a result of your proposed rate structure and how could the risk of those unintended consequences be minimized?

6. For your proposed rate structure, what types of innovative technologies and services are available that can help customers reduce consumption or shift consumption to a lower cost time period? What are the costs and benefits of these technologies and services?

7. Describe how you would transition to this rate structure in a manner that promotes customer acceptance, including plans for outreach and education. Should customers be able to opt to another rate design other than the optimal rate design you propose? If so, briefly describe the other rate or rates that should be available. Discuss whether the other rate(s) would enable customers opting out to benefit from a cross-subsidy they would not enjoy under the optimal rate.

8. Are there any legal barriers that would hinder the implementation of your proposed rate design? If there are legal barriers, provide specific suggested edits

to the pertinent sections of the Public Utilities Code. If there are legal barriers, describe how the transition to your proposed rate design would work in light of the need to obtain legislative or other regulatory changes and upcoming general rate cases.

9. How would your proposed rate design adapt over time to changing load shapes, changing marginal electricity costs, and to changing customer response?

10. How would your proposed rate design structure impact the safety of electric patrons, employees, and the public?

(END OF ATTACHMENT A)

ATTACHMENT B

Guidelines for Using Bill Impact Calculators

When using the one or more of the IOU bill impact calculators to support your proposed rate design proposal(s) please follow these guidelines:

1. Prior to submitting your proposal, confirm that the final version of the applicable bill impact calculator was used.

2. Print the user defined rate design, rate comparison, and bill impact results using the pre-defined print macro contained in each bill impact calculator. The print macro is designed to enable easy printing of the minimal information in a readable format including:

- Rate design input page(s) that detail the user defined parameters of the proposed rate design(s). (Required);
- Resulting rate comparisons between current rates and the proposed rates. (Required);
- Version number and date of the bill impact calculator used; and
- Resulting bill impact tables and graphs (Optional)

3. The calculators are capable of generating a large number of different bill impact tables and graphs with some degree of customization possible. Parties need not submit every possible bill impact graph and table, but should submit bill impact tables and graphs that support their proposed rate design proposals and enable the Commission to evaluate the proposed rate designs consistent with the Rate Design Proposal Instructions consisting of the revised rate design principles and rate design questions (Attachment A). There is no minimum nor maximum number of bill calculator generated graphs and tables that parties may submit in support of their rate design proposals.

4. Each rate design proposal generated from the bill impact calculators should be clearly labeled to include at a minimum: the name of party submitting the proposal and the utility for which is applicable.

5. Provide the Commission with both an electronic and hard copy of your proposal and supporting pages from the bill impact calculator. Print on 8.5″ x 11″ paper.

(END OF ATTACHMENT B)

ATTACHMENT C

Defined Terms

Automatic Control Technology: Any technology that allows the customer or their agent (e.g., an electric service provider or a demand response provider) to pre-program a control strategy - for an individual electric load, group of electric loads, or an entire facility - to be automatically activated in response to a dispatch instruction.

Baseline Quantity: A quantity of electricity allocated by the Commission for residential customers currently based on from 50-60 percent of average residential consumption (60-70 percent for all-electric customers during the winter heating season). The Commission is required by statute to designate a baseline quantity of electricity which is necessary to supply a significant portion of the reasonable energy needs of average residential customers at affordable prices. In setting those quantities, the Commission was directed to take into account the difference in energy needs between all-electric residences and those with both gas and electric service and to take into account differences in energy use by climatic zone and season. (See Section 739 of the Public Utilities Code.)

Bill Protection: Bill protection guarantees a customer will pay no more on a new rate schedule than they would have paid on a previous rate schedule. Bill protection has a defined time period, e.g. 12 months.

California Alternate Rates for Electricity (CARE): Customers with household incomes up to 200% of the federal poverty level qualify for the CARE rate discount program.

Coincident Peak Demand: The level of demand of a customer or customer class at the time of system peak demand.

Competition Transition Charge (CTC): See Rate Cost Components.

Conservation Incentive Adjustment (CIA) and Total Rate Adjustment Component (TRAC: Each utility has a residential rate component that is used to apply the tiering structure outside of generation and distribution related volumetric charges. The purpose of the CIA/TRAC is to allow the generation and distribution rate components to be flat while leaving the total rates tiered at levels compliant with SB 695. PG&E and SCE refer to this component as CIA, and SDG&E calls it TRAC. (SDGE currently has legacy baseline/non-baseline differential in its distribution rates. In SDG&E's A.11-06-007 GRC application still pending before the CPUC, SDGE proposed to move this differential from distribution to its TRAC mechanism.)

Cost of Service: Cost of service describes a utility's revenue requirement, or the total sum required to pay all operating expenses and capital costs, including a fair return on investment. Utility regulation that sets rates based on this kind of revenue requirement is sometimes called cost-of-service regulation. Utilities also calculate the cost of service for different customer classes in order to determine how to allocate the total revenue requirement to different classes.

Cost-Causation: A principle used in allocating costs (e.g., generation, transmission, distribution) and designing rates to assign costs to the customers who cause the costs to be incurred.

Critical Peak Pricing (CPP): A dynamic rate that allows a short-term price increase to a predetermined level (or levels) to reflect a set of forecast real-time system conditions that define a CPP event. In a fixed-period CPP, the time and duration of the price increase are predetermined, but the days in which it is changed are not predetermined. In a variable-period CPP, the time, duration and day of the price increase are not predetermined. The California investor-owned utility CPP programs provide participating customers an incentive to shift usage to non-event hours, and charge higher rates during event hours on a CPP event day. CPP event days are called 24 hours in advance, with customer notification provided through several communication channels.

Cross-Subsidy: Recovering costs incurred by one group of customers from another group of customers.

Default Opt Out: When customers are transitioned to a new rate, but have the option to opt out to another rate.

Default Rate: A rate that all customers in a given customer class are placed on, unless they choose an optional rate, if available.

Demand Charge: A charge calculated on a per-kilowatt (kW) basis for a customer's monthly maximum usage (e.g., $5/kW) which can also be time-differentiated. Demand charges reflect the cost of transmission and distribution facilities built to meet customers' maximum power demands. Demand charges are applied in addition to volumetric energy charges (per kWh), but the volumetric energy charges are lower than those on rate schedules without demand charges where these costs are recovered within the volumetric rate.

Demand Response: The ability of an individual electric customer to reduce or shift usage in response to a financial incentive or reliability need.

Dispatch: A broadcast signaling the initiation of a control strategy or price adjustment**.**

Distribution Costs: See Rate Cost Components.

DWR Bond Charge: See Rate Cost Components.

Dynamic Rate: A rate in which prices can be adjusted on short notice (typically an hour or day ahead) as a function of system conditions. A dynamic rate cannot be fully predetermined at the time the tariff goes into effect; either the price or the timing is unknown until real-time system conditions warrant a price adjustment to the rate. Examples include: real-time pricing (RTP) and critical peak pricing (CPP).

Economic Efficiency: Obtaining maximum social welfare from available resources. In the rate design context, pricing that reflects the marginal cost of generating and delivering electricity, including externalities, producing economic efficiency.

Elasticity of Substitution: Elasticity of substitution is the elasticity of the ratio of two inputs to a production function with respect to the ratio of their marginal products. This concept explains how a consumer's relative choices over consumption levels change as their relative prices change and is relevant for dynamic pricing.

Embedded Cost: Method of allocating historic and already incurred costs starting with the utility revenue requirement and assigning these costs based on cost-causation principles (e.g., meter costs for residential class assigned to residential class).

Energy Burden: Energy burden is defined as the portion of total household income that goes toward paying utility bills. Energy burden is calculated as the ratio of annual energy expenditures to total household income.[1] Energy burden can be calculated separately for electric and natural gas, or combined.

Energy Conservation: Total reduction in energy use, including using less energy, or using less energy to perform a function.

Energy Efficiency: Using less energy to perform the same function at a comparable level of service through the installation of equipment or adoption of a practice.

Environmental Attributes: The non-energy characteristics of electric generation that have negative or positive impacts on the environment.

Equal Percent Marginal Cost (EPMC): EPMC is a marginal cost-based revenue allocation method whereby all classes and rate schedules receive revenue requirement allocations that are the same percentage above or below their marginal cost revenues. Utilities often apply the EPMC to rate cases when requesting the Commission to approve allocation of authorized revenue according to marginal cost revenue.

Externality: A cost or benefit that arises from economic activity that affects someone other than the people engaged in the economic transaction and that is not included in prices. Pollution is an example of an externality cost if producers aren't the ones who suffer from pollution damages. An externality can create a market failure that causes inefficiency.

Family Electric Rate Assistance (FERA): The FERA program provides electricity at the tier 2 rate for consumption up to 200% of Baseline Quantity (i.e. for tier 3 usage). The program is available to families of three or more with annual incomes up to 250% of the federal poverty level.

Fixed Charges: A monthly charge (e.g., $5/month) applicable to all customers regardless of usage intended to reflect fixed costs of providing utility service that do not change with usage.

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[1] The Commission Final Report Phase 2 Low Income Needs Assessment September, 2007, KEMA, at p.3-27.

Fixed Costs: Costs that do not vary with usage or output.

Fixed Credit: An alternative to volumetric rate discounts is a fixed credit. In lieu of rate discounts, an eligible customer would receive a fixed payment or fixed credit to subsidize their electricity usage.

Flat Rates: An average rate charged volumetrically in cents per kWh that would be applicable for all usage for a given customer class or rate schedule.

Generation Costs: See Rate Cost Components.

Income Elasticity of Demand: The relative response of a change in demand to a relative change in income. More specifically, the income elasticity of demand can be defined as the percentage change in demand due to a percentage change in buyers' incomes. The income elasticity of demand quantitatively identifies the theoretical relationship between income and demand.

Loading Order: All utility procurement must be consistent with the Commission's established loading order. The loading order, first set forth in the Commission's 2003 Energy Action Plan, and subsequently reiterated in multiple forums (including D.07-12-052), requires the utilities to procure resources in a specific order:

> The "loading order" established that the state, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply.[2]

The loading order consists of decreasing electricity demand by increasing energy efficiency and demand response, and meeting new generation needs first with renewable and distributed generation resources, and second with clean fossil-fueled generation.

Low-Income Rate Assistance (LIRA): A program that provided qualified residential electric customers a discount in their electric rates. This program was the predecessor to the CARE program.

Mandatory Default Rate: When customers are transitioned to a new rate without the option to opt out to another rate.

Marginal Cost Revenues: These are the revenues that the utility would collect if all of its customers were charged rates that equal marginal costs.

Marginal Cost: The cost of providing one additional unit of a good or service. In the electric utility context there are several types of marginal costs – energy, generation capacity, transmission capacity, and distribution capacity. The Commission uses marginal costs in

[2] Energy Action Plan 2008 Update at 1.

allocating the utility's revenue requirement to customer classes and as reference points in rate design.

Medical Baseline: Customers who rely on life support equipment or those who have life threatening illnesses or compromised immune systems are given a higher baseline quantity to ensure their medical needs for electricity are met at affordable prices.

Minimum Bill: A monthly charge intended to recover fixed costs of utility service, but distinct from a customer charge. The minimum bill is a payment calculated based on the applicable volumetric rate. If volumetric usage is so low that the resulting bill would be less than the minimum bill, the customer would have to pay the minimum bill.

Net Energy Metering (NEM): Net energy metering (NEM) is a tariff that enables customers who install small (1 megawatt (MW) or less) distributed renewable generation facilities to offset their electric bill with onsite generation credited at the fully bundled retail rate. Bill credits are applied each month against charges for hours when the customer's load exceeds the customer's generation. Any excess bill credits remaining in a billing month are carried over and applied against the following month's bill. Under Assembly Bill 920, California utilities are required to compensate NEM customers for electricity produced in excess of on-site load over a 12-month period at a lower rate called Net Surplus Compensation (NSC).

Non By-passable Charge: A charge that all customers must pay whether they are bundled or unbundled customers of the utility.

Non-Coincident Peak Demand: The maximum demand of a customer or customer class during a specific time period, regardless of when the system peak occurs.

Notification: Information provided to customers regarding price adjustments or system conditions. 'Day-ahead' notification provides at least 24 hours advance notice. 'Hour-ahead' notification provides at least one hour advance notice.

Nuclear Decommissioning Charge: Charges that accumulate in a trust to cover the retirement costs of nuclear power plants.

Off-Peak: Time period when the electric system does not usually face high demand (peak).

Optional Rate: A rate that customers can voluntarily choose other than the default rate.

Peak Demand: The maximum amount of energy delivered by the utility system during a specific time period (e.g., a year, season, month, or day) within a specific system area (e.g. customer, substation, service territory, or balancing authority area), also referred to as peak load. Peak demand determines the required system capacity.

Peak-Time Rebate (PTR): A program that offers a bill credit for customers who reduce their energy use when requested by the utility during a specific time. Typically, event hours are during peak demand periods and events are called with day-ahead notice in response to system conditions. PTR offers a payment per kWh reduced during event periods, but does not assess

any penalties for households that do not achieve measurable reduction of electricity usage. To encourage customers to embrace automated enabling demand response technologies, PTR often pays a premium incentive per kWh reduced for customers enrolled in an automatic enabling technology program. Bill credits for each unit of electricity reduced are calculated based on event day reduction in electric usage below an established customer-specific reference level (CRL) or baseline for that day based on usage during a prior period.

Price Elasticity of Demand: The relative response of a change in quantity demanded to a relative change in price. More specifically, the price elasticity of demand can be defined as the percentage change in quantity demanded due to a percentage change in price.

Public Goods Charge (PGC): A non-bypassable surcharge previously imposed on all retail sales to fund public goods research, development and demonstration, energy efficiency activities, and low income assistance programs.

Public Purpose Program Charge: See Rate Cost Components.

Rate Cost Components: In California, rates are unbundled into generation, distribution, and transmission components based on key cost-drivers for each component. Rates also include Public Purpose Program (PPP) charges and several additional types of charges that are not a function of utility cost of service.[3]

> **Generation Costs**: Costs related to generating power to produce electricity. Typically defined in terms of capacity costs (e.g., $100/kW) and energy costs ($0.08/kWh).
>
> **Transmission Costs**: Costs associated with the transmission system for moving power long-distances or at high voltage, regulated primarily by the Federal Energy Regulatory Commission (FERC).
>
> **Distribution Costs**: Costs associated with distributing power to customers (e.g., substations, poles and wires, meters). Typically defined in terms of distribution capacity costs ($/kW) and customer costs ($ per customer).
>
> **Public Purpose Program Charge**: Costs associated with state-mandated public purpose programs, including energy efficiency, Electric Program Investment Charge (EPIC), low-income and medical needs.

[3] These definitions of Rate Cost Components do not necessarily match the component charges currently applied by the IOUs to residential customer bills. For example, the distribution charge listed on PG&E residential bills includes additional non-bypassable charges that are not included in the definition of "Distribution Cost" above.

DWR Bond Charge: Charges payable to the Department of Water Resources (DWR) for bonds issued by DWR to cover costs of power purchased during the energy crisis.

Nuclear Decommissioning Charge: Charges that accumulate in a trust to cover the retirement costs of nuclear power plants.

Competition Transition Charge (CTC): The charge that recovers the above-market cost of utility-owned generation and specified contracts that existed prior to electric industry restructuring, as determined by the Commission.

Real-Time Pricing (RTP) Rate: A dynamic rate that allows prices to be adjusted frequently, typically on an hourly basis, to reflect real-time system conditions.

Revenue Neutrality: A regulatory requirement that any alternative rate design must recover the same total revenue requirement as the default rate design, assuming that customers make no change in their usage patterns.

Seasonal Rate: A rate in which the price of electricity changes by seasonal periods of the year.

Shadow Bill: A shadow bill shows customers what their bill would have been if they were on another rate schedule. This enables customers to determine if another rate is advantageous compared to their current rate.

Staggered Discounts: Discounts for eligible customers that are staggered based on differing levels of income or usage.

System Conditions: Any or all of the following: wholesale electricity costs, reliability conditions, short-term environmental impacts, the relationship between supply and demand.

Tiered Rate: A rate which changes as a function of cumulative customer electricity usage within a monthly billing cycle, also referred to as "block" rates. Prices in an inclining tier or block rate increase as cumulative electricity usage increases. Prices in a declining tier or block rate decrease as cumulative electricity usage increases. California Investor Owned Utilities (IOUs) currently have an inclining tiered rate schedule as follows:
Tier 1 Electricity usage up to the Baseline amount
Tier 2 Electricity usage from 101% to 130% of Baseline amount
Tier 3 Electricity usage from 131% to 200% of Baseline amount
Tier 4 Electricity usage from 200% to 300% of Baseline amount[4]
Tier 5 Electricity usage over 300% of Baseline amount[5]

[4] PG&E and SDG&E have 4 tiers with Tier 4 representing electricity usage over 200% of baseline.

Time-Of-Use Rate (TOU): A rate that prices electricity according to the season or time of day that it is used according to an established schedule. TOU rates charge lower rates during a utility's off-peak and partial peak demand periods and higher rates during daily peak demand periods.

Time-Varying Rate (TVR): A rate schedule that charges different prices at different times of day, either according to an established, predetermined schedule or in response to day-ahead or intra-day prices or reliability conditions.

Total Rate Adjustment Component (TRAC): See Conservation Incentive Adjustment.

Transmission Costs: See Rate Cost Components.

Volumetric Charges: A per kWh charge based on electricity usage during the billing cycle (e.g., $0.15/kWh) intended to reflect costs that change with usage.

(END OF ATTACHMENT C)

[5] SCE is the only investor-owned utility with 5 tiers. A pending settlement to SCE's general rate case (A.11-06-007) would collapse tiers 5 and 4 for non-CARE customers starting in 2013.

ATTACHMENT D

Redline Showing Changes to Defined Terms

New Proposed Terms In Response to 1/31/31 Ruling

Minimum Bill: A monthly charge intended to recover fixed costs of utility service, but distinct from a customer charge. The minimum bill is a payment calculated based on the applicable volumetric rate. If volumetric usage is so low that the resulting bill would be less than the minimum bill, the customer would have to pay the minimum bill.

Marginal Cost Revenues: These are the revenues that the utility would collect if all of its customers were charged rates that equal marginal costs.

Elasticity of Substitution: Elasticity of substitution is the elasticity of the ratio of two inputs to a production function with respect to the ratio of their marginal products. This concept explains how a consumer's relative choices over consumption levels change as their relative prices change and is relevant for dynamic pricing.

Previously Defined Terms

Revenue Neutrality: A regulatory requirement that any alternative rate design must recover the same total revenue requirement as the default rate design, assuming that customers make no change in their usage patterns.

Fixed Costs: Costs that do not vary with usage or output.

Cost-Causation: A principle used in~~Method of~~ allocating costs (e.g., generation, transmission, distribution) and designing rates to assign costs to the customers who cause the costs to be incurred.

Cross-Subsidy: Recovering costs incurred by one group of customers from another group of customers.

Economic Efficiency: Obtaining maximum social welfare from available resources. In the rate design context, pricing that reflects the marginal cost of generating and delivering electricity, including externalities producing economic efficiency.

Externality: A cost or benefit that arises from economic activity that affects someone other than the people engaged in the economic transaction and that is not included in prices. Pollution is an example of an externality cost if producers aren't the ones who suffer from pollution damages. An externality can create a market failure that causes inefficiency.

Marginal Cost: The cost of providing one additional unit of a good or service. In the electric utility context there are several types of marginal costs – energy, generation capacity, transmission capacity, and distribution capacity. The Commission uses marginal costs in allocating the utility's revenue requirement to customer classes, and as reference points in rate design.

Embedded Cost: Method of allocating historic and already incurred costs starting with the utility revenue requirement and assigning these costs based on cost-causation principles (e.g., meter costs for residential class assigned to residential class).

Rate Cost Components: In California, rates are unbundled into generation, distribution, and transmission components based on key cost-drivers for each component. Rates also include Public Purpose Program (PPP) charges and several additional types of charges that are not a function of utility cost of service.[1]

> **Generation Costs**: Costs related to generating power to produce electricity. Typically defined in terms of capacity costs (e.g., $100/kW) and energy costs ($0.08/kWh).
>
> **Transmission Costs**: Costs associated with the transmission system for moving power long-distances or at high voltage, regulated primarily by the Federal Energy Regulatory Commission (FERC).
>
> **Distribution Costs**: Costs associated with distributing power to customers (e.g., substations, poles and wires, meters). Typically defined in terms of distribution capacity costs ($/kW) and customer costs ($ per customer).
>
> **Public Purpose Program Charge**: Costs associated with state-mandated public purpose programs, including energy efficiency, Electric Program Investment Charge (EPIC) ~~demand response, solar and distributed generation~~, low-income and medical needs.
>
> **DWR Bond Charge**: Charges payable to the Department of Water Resources (DWR) for bonds issued by DWR to cover costs of power purchased during the energy crisis.
>
> **Nuclear Decommissioning Charge**: Charges that accumulate in a trust to cover the retirement costs of nuclear power plants.

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[1] These definitions of Rate Cost Components do not necessarily match the component charges currently applied by the IOUs to residential customer bills. For example, the distribution charge listed on PG&E residential bills includes additional non-bypassable charges that are not included in the definition of "Distribution Cost" above.

Competition Transition Charge (CTC): The charge that recovers the above-market cost of utility-owned generation and specified contracts that existed prior to electric industry restructuring ~~for the cost of electricity that is in excess of the market price~~, as determined by the Commission.

Non By-passable Charge: A ~~c~~charge~~s~~ that all customers must pay whether they are bundled or unbundled customers of the utility.

Peak Demand: The maximum amount of energy delivered by the utility system during a specific time period (e.g., a year, season, month, or day) within a specific system area (e.g. customer, substation, service territory, or balancing authority area), also referred to as peak load. Peak demand determines the required system capacity.

Off-Peak: Time period when the electric system does not usually face high demand (peak).

Coincident Peak Demand: The level of demand of a customer or customer class at the time of system peak demand.

Non-Coincident Peak Demand: The maximum demand of a customer or customer class during a specific time period, regardless of when the system peak occurs.

Demand Response: The ability of an individual electric customer to reduce or shift usage in response to a financial incentive or reliability need.

Energy Efficiency: Using less energy to perform the same function at a comparable level of service through the installation of equipment or adoption of a practice.

Energy Conservation: Total reduction in energy use, including using less energy, or using less energy to perform a function.

Dispatch: A broadcast signaling the initiation of a control strategy or price adjustment**.**

Automatic Control Technology: Any technology that allows the customer or their agent (e.g., an electric service provider or a demand response provider) to pre-program a control strategy - for an individual electric load, group of electric loads, or an entire facility - to be automatically activated in response to a dispatch instruction.

System Conditions: Any or all of the following: wholesale electricity costs, reliability conditions, short-term environmental impacts, the relationship between supply and demand.

Notification: Information provided to customers regarding price adjustments or system conditions. 'Day-ahead' notification provides at least 24 hours advance notice. 'Hour-ahead' notification provides at least one hour advance notice.

Public Goods Charge (PGC): A non-bypassable surcharge previously imposed on all retail sales to fund public goods research, development and demonstration, energy efficiency activities, and low income assistance programs.

Price Elasticity of Demand: The relative response of a change in quantity demanded to a relative change in price. More specifically the price elasticity of demand can be defined as the percentage change in quantity demanded due to a percentage change in price.

Income Elasticity of Demand: The relative response of a change in demand to a relative change in income. More specifically the income elasticity of demand can be defined as the percentage change in demand due to a percentage change in buyers' incomes. The income elasticity of demand quantitatively identifies the theoretical relationship between income and demand.

Seasonal Rate: A rate in which the price of electricity changes by seasonal periods of the year .

Medical Baseline: Customers who rely on life support equipment or those who have life threatening illnesses or compromised immune systems are given a higher baseline quantity to ensure their medical needs for electricity are met at affordable prices.

Baseline Quantity: A quantity of electricity allocated by the Commission for residential customers currently based on from 50-60 percent of average residential consumption (60-70 percent for all-electric customers during the winter heating season). The Commission is required by statute to designate a baseline quantity of electricity which is necessary to supply a significant portion of the reasonable energy needs of average residential customers at affordable prices. In setting those quantities, the Commission was directed to take into account the difference in energy needs between all-electric residences and those with both gas and electric service and to take into account differences in energy use by climatic zone and season. (See Section 739 of the Public Utilities Code.)

Tiered Rate: A rate which changes as a function of cumulative customer electricity usage within a monthly billing cycle, also referred to as "block" rates. Prices in an inclining tier or block rate increase as cumulative electricity usage increases. Prices in a declining tier or block rate decrease as cumulative electricity usage increases. California Investor Owned Utilities (IOUs) currently have an inclining tiered rate schedule as follows:
Tier 1 Electricity usage up to the Baseline amount
Tier 2 Electricity usage from 101% to 130% of Baseline amount
Tier 3 Electricity usage from 131% to 200% of Baseline amount
Tier 4 Electricity usage from 200% to 300% of Baseline amount[2]
Tier 5 Electricity usage over 300% of Baseline amount[3]

[2] PG&E and SDG&E have 4 tiers with Tier 4 representing electricity usage over 200% of baseline.

Low-Income Rate Assistance (LIRA): A program that provided qualified residential electric customers a discount in their electric rates. This program was the predecessor to the CARE program.

California Alternate Rates for Electricity (CARE): Customers with household incomes up to 200% of the federal poverty level qualify for the CARE rate discount program.

Family Electric Rate Assistance (FERA): The FERA program provides electricity at the tier 2 rate for consumption up to 200% of Baseline (i.e. for tier 3 usage). The program is available to families of three or more with annual incomes up to 250% of the federal poverty level.

Staggered Discounts: Discounts for ~~low-income~~ eligible customers that are staggered based on differing levels of income or usage.

Fixed Credit: An alternative to volumetric rate discounts is a fixed credit. In lieu of rate discounts, an eligible ~~low-income or medical~~ customer would receive a fixed payment or fixed credit to subsidize their electricity usage. .

Fixed Charges: A ~~M~~monthly charge (e.g., $5/month) applicable to all customers regardless of usage intended to reflect fixed costs of providing utility service that do not change with usage ~~and are necessary to ensure constant availability of service~~.

Volumetric Charges: A per kWh charge based on electricity usage during the billing cycle (e.g., $0.15/kWh) intended to reflect costs that change with usage.

Flat Rates: A~~a~~n average rate charged volumetrically in cents per kWh that would be applicable for all usage for a given customer class or rate schedule.

Demand Charge: A charge ~~C~~calculated on a per-kilowatt (kW) basis for a customer's monthly maximum usage (e.g., $5/kW) which can also be time-differentiated. Demand charges reflect the cost of transmission and distribution facilities built to meet customers' maximum power demands. Demand charges are applied in addition to volumetric energy charges (per kWh), but the volumetric energy charges are lower than those on rate schedules without demand charges where these costs are recovered within the volumetric rate.

Time-Varying Rate (TVR): A rate schedule that charges different prices at different times of day, either according to an established, predetermined schedule or in response to day-ahead or intra-day prices or reliability conditions.

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[3] SCE is the only investor-owned utility with 5 tiers. A pending settlement to SCE's general rate case (A.11-06-007) would collapse tiers 5 and 4 for non-CARE customers starting in 2013.

Time-Of-Use Rate (TOU): A rate that prices electricity according to the season or time of day that it is used according to an established schedule. TOU rates charge lower rates during a utility's off-peak and partial peak demand periods and higher rates during daily peak demand periods.

Dynamic Rate: A rate in which prices can be adjusted on short notice (typically an hour or day ahead) as a function of system conditions. A dynamic rate cannot be fully predetermined at the time the tariff goes into effect; either the price or the timing is unknown until real-time system conditions warrant a price adjustment to the rate. Examples include: real-time pricing (RTP), critical peak pricing (CPP).

Critical Peak Pricing (CPP): A dynamic rate that allows a short-term price increase to a predetermined level (or levels) to reflect a set of forecast real-time system conditions that define a CPP event. In a fixed-period CPP, the time and duration of the price increase are predetermined, but the days in which it is changed are not predetermined. In a variable-period CPP, the time, duration and day of the price increase are not predetermined. The California investor-owned utility CPP programs provide participating customers an incentive to shift usage to non-~~peak~~ event hours, and charge higher rates during ~~peak~~ event hours on a CPP event day. CPP event days are called 24 hours in advance, with customer notification provided through several communication channels.

Real-Time Pricing (RTP) Rate: A dynamic rate that allows prices to be adjusted frequently, typically on an hourly basis, to reflect real-time system conditions.

Peak-Time Rebate (PTR): A program that offers a bill credit for customers who reduce their energy use when requested by the utility during a specific time. Typically, event hours are during peak demand periods and events are called with day-ahead notice in response to system conditions. PTR offers a payment per kWh reduced during event periods, but does not assess any penalties for households that do not achieve measurable reduction of electricity usage. To encourage customers to embrace automated enabling demand response technologies, PTR often pays a premium incentive per kWh reduced for customers enrolled in an automatic enabling technology program. Bill credits for each unit of electricity reduced are calculated based on event day reduction in electric usage below an established customer-specific reference level (CRL) or baseline for that day based on usage during a prior period.

Shadow Bill: A shadow bill shows customers what their bill would have been if they were on another rate schedule. This enables customers to determine if another rate is advantageous compared to their current rate.

Bill Protection: Bill protection guarantees a customer will pay no more on a new rate schedule than they would have paid on a previous rate schedule. Bill protection has a defined time period, e.g. 12 months.

Default Rate: A rate that all customers in a given customer class are placed on, unless they choose an optional rate, if available.

Optional Rate: A rate that customers can voluntarily choose other than the default rate.

Mandatory Default Rate: When customers are transitioned to a new rate without the option to opt out to another rate.

Default Opt Out: When customers are transitioned to a new rate, but have the option to opt out to another rate.

Energy Burden: Energy burden is defined as the portion of total household income that goes toward paying utility bills. Energy burden is calculated as the ratio of annual energy expenditures to total household income[4]. Energy burden can be calculated separately for electric ~~only, combined electric~~ and natural gas, or combined.~~and *separate electric and natural gas*~~.

Loading Order: All utility procurement must be consistent with the Commission's established loading order. The loading order, first set forth in the Commission's 2003 Energy Action Plan, and subsequently reiterated in multiple forums (including D.07-12-052), requires the utilities to procure resources in a specific order:

> The "loading order" established that the state, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply.[5]

The loading order consists of decreasing electricity demand by increasing energy efficiency and demand response, and meeting new generation needs first with renewable and distributed generation resources, and second with clean fossil-fueled generation.

Equal Percent Marginal Cost (EPMC): EPMC is a marginal cost-based revenue allocation ~~calculation~~ method whereby all classes and rate schedules receive revenue requirement allocations that are the same percentage above or below their marginal cost revenues. Utilities often apply the EPMC to rate cases when requesting the Commission to approve allocation of authorized revenue according to marginal cost revenue.

Net Energy Metering (NEM): Net energy metering (NEM) is a tariff that enables customers who install small (1 megawatt (MW) or less) distributed renewable generation facilities to offset their electric bill with onsite generation credited at the fully bundled retail rate. Bill credits are applied each month against charges for hours when the customer's load exceeds the customer's generation. Any excess bill credits remaining in a billing month are carried over and applied against the following month's bill. Under Assembly Bill 920, California utilities are required to

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[4] *The Commission Final Report Phase 2 Low Income Needs Assessment September, 2007, KEMA, at p.3-27*

[5] Energy Action Plan 2008 Update at 1.

compensate NEM customers for electricity produced in excess of on-site load over a 12-month period at a lower rate called Net Surplus Compensation (NSC).

Environmental Attributes: The non-energy characteristics of electric generation that have negative or positive impacts on the environment.

Cost of Service: Cost of service describes a utility's revenue requirement, or the total sum required to pay all operating expenses and capital costs, including a fair return on investment. Utility regulation that sets rates based on this kind of revenue requirement is sometimes called cost-of-service regulation. Utilities also calculate the cost of service for different customer classes in order to determine how to allocate the total revenue requirement to different classes.

~~**Total Rate Adjustment Component (TRAC)**: The rate component through which subsidies ensuring Senate Bill 695 compliance are applied and recovered for SDG&E.~~

Conservation Incentive Adjustment (CIA) and Total Rate Adjustment Component (TRAC: Each utility has a residential rate component that is used to apply the tiering structure outside of generation and distribution related volumetric charges. The purpose of the CIA/TRAC ~~rates~~ is to allow the generation and distribution rate components to be flat ~~(prior to July 1, 2012 both were tiered),~~ while leaving the total rates tiered at levels compliant with SB 695. PG&E and SCE refer to this component as CIA, and SDG&E calls it TRAC. (SDGE currently has legacy baseline/non-baseline differential in its distribution rates. In SDG&E's A.11-06-007 GRC application still pending before the CPUC, SDGE proposed to move this differential from distribution to its TRAC mechanism.)~~their same levels. PG&E's new rate structure converts generation and distribution into flat rates and adds a new set of tiered rates called the Conservation Incentive Adjustment (CIA). The purpose of the CIA rates is to allow the generation and distribution rate components to be flat (prior to July 1, 2012 both were tiered), while leaving the total rates tiered at their same levels.~~

(END OF ATTACHMENT D)