Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for Authority to Update Marginal Costs,)
Cost Allocation, And Electric Rate Design (U 902-E))
_____)

Application No. 07-01-047
Exhibit No.: (SDG&E-_____)

REVISED REBUTTAL TESTIMONY

OF STEVE RAHON

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC ~~UTLITIES~~UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

~~SEPTEMBER 24,~~OCTOBER 4, 2007

REVISED PREPARED REBUTTAL TESTIMONY

OF

STEVE RAHON

The purpose of my rebuttal testimony is to support the adoption of the ~~settlement principles and framework (settlement~~Motion for Adoption of Partial Settlement dated September 25, 2007 (Settlement) reached by 11 of the 13 active parties to~~ this proceeding. The settlement principles and framework will be finalized and submitted by separate motion prior to hearings in~~ this proceeding. The 11 parties that reached settlement (San Diego Gas and Electric, the Division of Ratepayer Advocates, Utility Consumer Action Network, California Large Energy Consumers Association, the Federal Executives Agencies, California Farm Bureau Federation, California Manufacturers & Technology Association, Vote Solar Initiative, Solar Alliance, California Street Lighting Association, and Building Owners and Managers) either support or agree not to oppose the settlement. The two active parties that did not sign-on to the ~~settlement~~Settlement were the City of San Diego and Fuel Cell Energy. Fuel Cell Energy has limited their rebuttal testimony to the size limitation proposed in the new distributed generation-renewable (Schedule DG-R) tariff. The City of San Diego intends to litigate all their positions put forth in their prepared direct testimony. The settlement covers all areas of GRC Phase II including AB1X issues, revenue allocation, rate design, dynamic pricing, and Schedule DG-R.

All active parties spent countless hours negotiating in good faith to reach the compromise set forth in the ~~settlement~~Settlement documents found at Attachment 1. Each party compromised from their originally filed position to reach a fair and reasonable outcome to the issues put forth in this case. The settlement should be viewed in its entirety and is not severable.

The ~~settlement~~Settlement parties will ultimately request that the Commission adopt the settlement in its entirety, allowing the issues that have been identified for litigation to proceed along that path. The ~~settlement~~Settlement parties have agreed to litigate the non-coincident distribution demand charge at dispute related to the Schedule DG-R and to set aside for briefing the AB1X issues not addressed by the ~~settlement~~Settlement.

This concludes my prepared rebuttal testimony.

QUALIFICATIONS

My name is Steve Rahon. I am employed by the Sempra Energy Utilities, San Diego Gas and Electric (SDG&E) and Southern California Gas Company (SoCalGas). My business address is 8315 Century Park Court, San Diego, California 92123-1550. I became Director of Regulatory Policy and Analysis in Regulatory Affairs in May 2007. Prior to that, I was the Director of Tariffs and Regulatory Accounts in Regulatory Affairs since April 2002.

I received a Bachelor of Science degree in Accounting from California State University Long Beach in 1987. I began my career as an internal auditor at Pacific Enterprises and later transferred to SoCalGas prior to the Pacific Enterprises/Enova merger in 1998. In 1991, I began working for SoCalGas in Gas Accounting and held various positions of increasing responsibility in Regulatory Accounting, General Accounting, and Financial Planning. In 1998, I joined Regulatory Affairs as a Regulatory Case Manager.

I have testified previously before the Commission.

Attachment 1

(replaced in its entirety)

Application of SAN DIEGO GAS & ELECTRIC)
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REBUTTAL TESTIMONY
OF JOSEPH S. VELASQUEZ
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC ~~UTLITIES~~UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

~~SEPTEMBER 24,~~OCTOBER 4, 2007

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REVISED PREPARED REBUTTAL TESTIMONY
OF
JOSEPH S. VELASQUEZ

I. INTRODUCTION

My rebuttal testimony addresses:

- How SDG&E's proposed Schedule DG-R benefits solar customers while mitigating costs ~~shits~~shifts to other customers;
- Why the limiting Schedule DG-R to customers below 500 kW is appropriate;
- Refuting Fuel Cell Energy's Claim regarding System Disturbances outside the control of DG Customers;
- City of San Diego's concerns regarding conversion from SIC to NAICS; and
- City of San Diego's concerns regarding their bill presentation.

II. THE PROPOSED DG-R TARIFF IS A REASONABLE COMPROMISE BETWEEN PROVIDING BENEFITS TO SOLAR CUSTOMERS AND MITIGATING COST SHIFTS TO OTHER CUSTOMERS

In the rebuttal testimony of SDG&E Witness David Borden, SDG&E describes the ~~bases~~basis for the demand components of its rate proposals and ~~how~~why these components are necessary to prevent cross-subsidies between customers and ensure customers pay ~~the~~their fair share for utility service. However in response to concerns of various solar parties[1] and the City of San Diego, SDG&E agreed on a compromise rate proposal, referred to as Schedule DG-R. Schedule DG-R will be available to all Commercial and Industrial customers with Solar Photovoltaic (PV), Fuel Cell Applications and Renewable Distributed Generation with demand up to 500 kW. Some of the key benefits of Schedule DG-R for these customers is that no commodity demand charges and no distribution maximum peak period demand charges apply (instead replacing them with an all energy component). As SDG&E witness Borden states, Schedule DG-R provides a discount to DG-R qualified customers paid by other customers.

Although it may not provide everything the solar parties want, Schedule DG-R goes a long way ~~of~~in providing benefits to these customers while maintaining costs to other customers reasonable. To illustrate the benefits, I would like to use the same illustrative example used by SDG&E Witness Borden in his discussion of demand and energy rate design (Figure -1).

[1] Primarily Vote Solar and Solar Alliance.

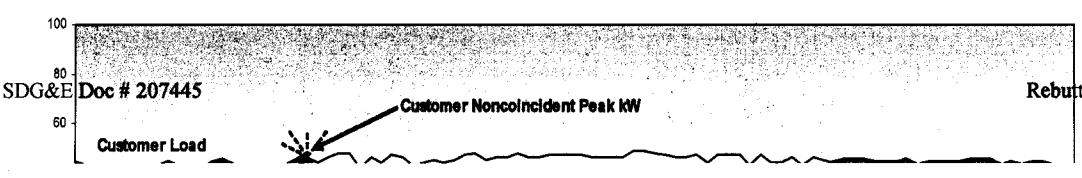

Figure - 1

In this example a customer with PV generates approximately the same number of kWh that ~~they use~~it uses on a daily basis. In order to keep the example simple ~~we~~I will assume this is replicated every day. The savings opportunities provided to customers under Schedule DG-R are:

- The yellow portion of the graph represents all the energy charges or kWh the customer avoids purchasing from the utility. Under Schedule DG-R these avoided costs ~~represents~~represent all electric commodity costs (i.e., because commodity demand charges do not apply) and distribution ~~charges~~costs collected through an energy charge (i.e., because time variant distribution demand charges do not apply.)
- The green portion of the graph represents the net energy metering (NEM) credit accrued that day and valued at the energy charges applicable during that period. This credit can be used to offset all other energy charges when the customer was taking services from SDG&E (the mustard portion of the graph).
- It is also important to note that the energy charges during the on-peak period are valued higher than the energy charges during off-peak and ~~mid~~semi-peak and therefore, in this example, the on-peak NEM credit would probably exceed the energy charges during the off-peak.

However, these benefits are not enough for the solar parties and the City of San Diego who are also seeking to replace the noncoincident demand ~~charges~~charge with an energy charge. As this example shows, such a change would allow this customer to completely avoid electric distribution costs although they would be depending on the distribution system for a substantial amount of the time. If this were allowed to happen, other customers would bear the distribution costs to serve this customer.

III. LIMITING THE DG-R SCHEDULE TO CUSTOMERS BELOW 500 KW CAPTURES THE MAJORITY OF SOLAR CUSTOMERS WHILE MITIGATING THE COSTS TO OTHER CUSTOMERS

In establishing the 500 kW limit to the DG-R Schedule, SDG&E seeks to capture a large number of qualifying solar customers and mitigate costs to other customers. The DG-R schedule

only requires that customers have 10% of their load served by ~~solar~~an eligible generator; however the benefits and the discounts of the rate are applied to the entire load served ~~on the account~~by SDG&E. Therefore, a 500 kW customer would only need to install a 50 kW ~~solar unit~~eligible generator to qualify for the rate but the discount would also apply to the other 450 kW of load that is served by traditional utility service. Based on ~~its~~SDG&E's research of current customers, the 500 kW limit captures 80 % of the current number of commercial and industrial customers greater than 20 kW with PV.

Although some customers with fuel cells may be larger than 500 kW, we believe that these larger customers with fuel cells should be able to operate in a way that would allow them to avoid the demand charges excluded from Schedule DG-R. Unlike solar, fuel cells do not depend on weather ~~or~~, the time of day, hours of sun or solar intensity. SDG&E does not believe it is appropriate to extend the discounts, inherent in Schedule DG-R and paid by other customers, to fuel cell customers greater than 500 kW that can not operate their fuel cells wisely or reliably.

IV. FUELCELL ENERGY'S CLAIMS OF DISTURBANCES ON SDG&E'S ~~OUTAGES~~SYSTEM LEADING TO CUSTOMER OUTAGES IS UNSUBSTANTIATED

FuelCell Energy claims that transitory outages outside the control of the DG customer are the result of disturbances on SDG&E's system. SDG&E has investigated FuelCell's claims regarding system disturbances and has found no support indicating that such disturbances are caused by SDG&E. SDG&E has requested that FuelCell Energy provide support for its claim that such outages are a result of disturbances on SDG&E's side of the meter and FuelCell Energy appears to lack any support for its claim. SDG&E believes that it is being unfairly blamed for ~~potential~~ disturbances caused on the customer's side of the meter, potentially faulty distributed generation equipment that may not operate reliably under the customer's existing electric circuitry, or the failure to install additional power conditioning or power quality equipment. If so, all of these are clearly under the control of the customer, fuel cell manufacturer vendor, and ~~their~~ contractor. SDG&E asked FuelCell the following in a data ~~response~~request:

> **Question ~~2~~2.A.:** On Page 7 of Mr. McClary's testimony, he states that "A recent analysis of savings to a potential customer in SDG&E's service area found…lost savings, due primarily to system disturbances outside the control of the customer or DG provider,

added nearly 15% to the customer's overall electricity cost." Additionally you stated that "In many cases the event triggering ratcheted demand charges is a system disturbance..."

Please fully define and describe what is meant by "system disturbances."

Response:

A "system disturbance" as used in this instance refers to an event such as a voltage deviation or frequency deviation that occurs on the system, not at the customer site, that causes the on-site fuel cell generation to trip off-line.

Question 2.B.: Please provide all data including but not limited to dates, time of occurrence, nature of disturbance (e.g., voltage excursion) and duration of each occurrence?

Response:

FuelCell Energy does not have a detailed record of this information, but is seeking specific information from its customers. We will supplement this response to the extent additional information becomes available. We believe that SDG&E itself should have records of system disturbances that would provide the requested information.

SDG&E has investigated such disturbances for a client of FuelCell and although the issue is still under investigation, SDG&E has found indications that if such disturbances occurred they may have resulted from the customer's operations and/or equipment.

V. CONVERSION FROM SIC TO NAICS

The City of San Diego recommends that the Commission reject SDG&E's proposal to switch from the Standard Industrial Classification ("SIC") to the North American Industry Classification System ("NAICS") for customer classification purposes. The City is concerned that some customer accounts currently on the Schedule PA-T-1 and Schedule PA may lose their eligibility as a result of the switch. The City claims that SDG&E has presented no compelling reason for this switch. (City of San Diego, Testimony of William A. Monsen, pp. 38 - 39)

For various statistical reporting reasons, SDG&E historically has flagged its customer billing accounts with SIC codes. In response to the widespread adoption of the NAICS codes

and to better align its customer classification coding system with agencies like the California Energy Commission, SDG&E recently began the process of replacing SIC codes with NAICS codes. After reviewing its current and effective tariffs, SDG&E discovered that its rate schedules PA and PA-T-1 contained references to the outdated SIC codes. As a result, SDG&E proposed to replace the references to SIC codes with the more widely used NAICS codes.

In response to SDG&E's proposal, the City of San Diego seems to be concerned that some customer accounts currently on ~~the~~ Schedule PA-T-1 and Schedule PA may no longer be eligible for service under these rate schedules as a result of the switch. The City goes on to claim that SDG&E has presented no compelling reason for this switch.

This innocuous replacement of SIC codes with NAICS codes to be consistent does not change the applicability requirements set forth in either Schedule PA or Schedule PA-T-1. If a customer is currently eligible to receive service under either of these schedules, this eligibility will ~~no~~not be jeopardized by the simple change from SIC to NAICS codes. Additionally, new customers that would be eligible for service under either schedule with the existing references to SIC codes will be eligible under the schedules after the replacement with NAICS codes. Moreover, given the tremendous interaction and informational exchanges between SDG&E and government agencies such as the CEC, SDG&E has provided a solid basis for making the change. For the reasons stated above, the Commission should reject the City's assertions and adopt SDG&E's proposal.

VI. TRANSPARENCY IN SDG&E'S BILLING SYSTEM

The City of San Diego indicates that the lack of transparency in SDG&E's billing system for solar customers is a reason that they might halt development of solar projects. (City of San Diego, Testimony of Tom Blair, pp. 15 – 16) The City indicates that the lack of transparency relates to the following: 1) SDG&E does not provide total energy usage and total solar energy produced on the bill but instead provides only net energy usage or net energy generated; 2) SDG&E does not set forth the rates on the bill that are used to calculate the net metering credits that are carried forward to the next month; and, 3) SDG&E does not provide net metering credits on a monthly basis but instead provides them on an annual basis. (City of San Diego, Testimony of Tom Blair, pp. 15 – 16)

Providing information with regard to net energy metering on a customer's bill is simply not practical given the limited amount of space available on customer billing statements. While

SDG&E must strike a balance between useful information and too much information, in terms of what is provided on a customer's bill, detailed net energy metering information is included on a separate document inserted in the billing envelope each month for larger non-residential accounts. Additional information can be provided through hard copy (for a charge) or free of charge on the internet.

In response to the City's specific concerns that SDG&E does not provide total energy usage and total solar energy produced by a solar customer on the bill, SDG&E currently provides this data in the monthly billing envelope for customers with demand of 500 kW or higher because the cost of the service is included in the higher basic service fees that are charged these customers. Per the terms of SDG&E's Rule 9, Rendering and Payment of Bills, Subsection G., Purchase of Interval Meter Data by Customers Under 500 kW, the City can receive a hard copy of the monthly interval data by meter for the cost of $20 per meter, per month. Thus, the data is available to the City if they wish to subscribe to the service. For the City's accounts that are below 500 kW demand the City can access and download 15 minute interval data by account and by meter free of charge on SDG&E's web site.
(See the link: https://paladin.sdge.com/energywave/cfm/signon.cfm)

While the City indicates that this information is extremely important for auditing purposes and that it could "scour through other sources to reconcile this information" , the truth is that the City only has to log-in to its account on SDG&E's web site and match the account number that it seeks to audit. The data can be viewed for each meter associated with the account, including consumption and generation, in 15 minute intervals, if that is desired. SDG&E has employees available who are trained in the use of the internet site and who can assist the City in accessing its billing data online.

With regard to the City's claim that SDG&E does not set forth the rates on the bill that are used to calculate the net metering credits that are carried forward to the next month, SDG&E provides the total rate used to bill the customer or to credit the customer on their bill. The individual rate components that make up the total rate are also available free of charge on SDG&E's web site.

The City's concerns about the provision of monthly credits for net metering for solar customers seems to center around the current methodology used by SDG&E to display credits and charges on a customer's bill. When a customer, like the City is billed under a time-of-use (TOU) rate schedule, credits and charges are displayed separately on the bill for each TOU

period. SDG&E's billing system is currently not programmed to net the monetary values associated with these TOU periods, however a separate statement is enclosed with the monthly bill that clearly shows a running total of credits. SDG&E is currently working on the system programming that is necessary to provide the net ~~the~~ monetary credits and will have it fully operational sometime during the first quarter of 2008.

This concludes my rebuttal testimony.

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REBUTTAL TESTIMONY
OF DAVID A. BORDEN
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC ~~UTLITIES~~UTILITIES COMMISSION
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~~SEPTEMBER 24,~~OCTOBER 4, 2007

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REVISED PREPARED REBUTTAL TESTIMONY

OF

DAVID A. BORDEN

I. INTRODUCTION

My rebuttal testimony, in conjunction with the Rebuttal Testimony of SDG&E witness Bialek, addresses:

1. Distribution Non-coincident Demand (NCD) issues, including the distribution NCD ratchet;
2. City of San Diego's (CSD) issues with commodity demand charges; and
3. CSD's issue with the submission of tariffs to implement Decision 2 05-08-013 and Resolution E-3992 regarding Net Energy Metering for Combined Technology Distributed Generating systems.
4. Miscellaneous arguments raised by CSD and other parties.

II. DISTRIBUTION NCD CHARGES

A. NCD Charges

SDG&E proposes to maintain the distribution NCD and the related demand ratchet in the majority of our Commercial and Industrial (C&I) rates, including in the Schedule DG-R that is proposed in the Settlement Principles as discussed in the rebuttal testimony of SDG&E witnesses Mr. Rahon and Mr. Velasquez. SDG&E's proposed C&I rate design is consistent with cost causation principles that design rates in a manner similar to how costs are incurred on the system. Rate design that reflects cost causation principles essentially ~~attempt~~attempts to minimize subsidies between customers and provide transparent price signals. For C&I customers, distribution rates are designed to recover customer service and hookup costs through basic service fees and demand charges that reflect the customer demands placed on the system during summer and winter peak periods and those that are placed non-coincident with peak periods. The cost of providing distribution service is largely fixed primarily to serve customer non-coincident demand. (SDG&E, Rebuttal testimony of Bialek, pp. 1-2)

To illustrate, if Customer A and Customer B have noncoincident demands of 100 kW and 25 kW, respectively over the same period, and both use the same amount of energy 100 kWhs,

the distribution system must be sized to take into account the higher demands of Customer A despite the fact that they occur less frequently. Under SDG&E's current and proposed distribution rate design for C&I customers, poorer load factor customers like the hypothetical Customer A pay more for use of the system. For example, if total distribution costs are $1,000, then on a NCD basis the demand charge would equal about $3/kW and Customer A and B would be billed about $667 and $333, respectively. By moving to an all energy rate the charge would be $5/kWh and customer A and B would each be billed $500 despite the higher cost to serve Customer A.

With respect to Schedule DG-R, renewable distributed generation does not necessarily allow SDG&E to avoid the costs incurred to serve the customer's demands on the distribution system because renewable distributed generation may have limitations in its ability to lower a customer's demand. The ~~costs~~cost to serve that demand does not disappear as a result of energy sent to the grid in other time periods. SDG&E must have distribution facilities in place to seamlessly and reliably serve a renewable distributed generation customer's load when their generation cannot or does not generate power to offset their load. By designing rates on cost causation principles that reflect the demand based nature of the costs of the distribution system, SDG&E treats renewable distributed generation customers and other customers in the same fair and reasonable manner that is based on cost of service. Schedule DG-R, as proposed, deviates from SDG&E's proposed cost based rates and as such is inherently a subsidy to customers with renewable generation. That is to say, cost recovery through a greater use of energy rates for demand based costs will allow renewable generation customers to avoid recovery of costs that SDG&E does not avoid and that must then be recovered from other customers. If even after applying Schedule DG-R, renewable distributed generation is still uneconomic and the Commission believes that additional subsidies are warranted, then these additional subsidies should be provided through transparent, non bypassable charges, not buried in distribution rate design.

B. Demand Ratchet

As The City of San Diego explains in the testimony of Mr. Monsen, the ratchet can cause certain customers to pay NCD charges even in months when energy usage is low or zero. (City of San Diego, Testimony of William A. Monsen, p. 19). However, this is appropriate rate design following cost causation principles because the distribution system investment is largely fixed.

When a customer uses little or no energy SDG&E must still size distribution facilities to meet their demands when they are incurred. SDG&E believes that application of demand ratchets should be continued to minimize potential cross subsidization. The City indicates that one of the benefits of eliminating the demand ratchet would be encouraging conservation (City of San Diego, Testimony of William A. Monsen, ~~pp~~. 19), but the aim is misplaced because SDG&E may not experience distribution cost savings from energy reductions. (SDG&E, Rebuttal Testimony of Thomas Bialek, pp. 1-2) The demand ratchet is designed to recover the cost of providing distribution service to low load factor customers, who by definition have low energy usage relative to other customers with similar demands, and it has worked well when one considers that it applies to a small number of C&I accounts.

The City further argues that elimination of the demand ratchet will provide equity in treatment between residential, small commercial, and C&I customers because residential and small commercial do not currently face demand charges. (City of San Diego, Testimony of William A. Monsen, p. 20) Residential and small commercial customer rate design should not be used as basis for designing C&I rates. The lack of demand charges for residential and small commercial customers is more a function of the historically prohibitive costs of demand meters for these customers, the ability of the customers to understand more complex rates, and the resources available to them.

The City's final argument for the elimination of ratcheted distribution demand charges is that it will have minimal effect on rates. (City of San Diego, Testimony of William A. Monsen, pp. 20-21) The argument that the elimination of the demand ratchet will not harm other customers is misplaced because it relies upon the snapshot of bill impacts today from a billing analysis when the ratchet is applicable and it does not take into account cost shifting between customers within the rate schedule. If SDG&E's demand ratchet were not applied to historical billings then demand billings may decrease by less than 2% in total, but the latter is a strong indication that the ratchet is reasonably designed today and that a monthly demand level is ratcheted upwards only for those customers with the greatest variability in monthly demands and poorest load factors. However, it does not follow that eliminating the ratchet will result in the same small numbers of accounts with poor load factors and high variability in demands. What is more likely to occur is that as solar installations increase and those customers become poorer load factor customers, then the subsidy from higher load factor customers is likely to increase without the demand ratchet.

FuelCell indicates that demand ratchets do not provide appropriate price signals and are a disincentive to distributed generation and should be eliminated. (FuelCell, Testimony of Steven C. McClary, pp. 5-7, 12—16) The demand ratchet is appropriate rate design following cost causation principles because the distribution system design and investment is largely fixed. (SDG&E, Rebuttal testimony of ~~Can Truong~~Tom Bialek, pp. 1-2) Thus, even when a customer uses little or no energy SDG&E must still size distribution facilities to meet their demands when they are incurred. SDG&E believes that application of demand ratchets should be continued to minimize potential cross subsidization.

Fuelcell recommends that if demand charges remain then they should be based on maximum monthly demand without the ratchet mechanism. (Fuelcell, Testimony of Steven C McClary, pp. 5-7, 13 – 14) Although Fuelcell indicates that maintaining demand charges without the ratchet has little impact on other customers, the analysis is not persuasive because it relies upon the snapshot of bill impacts today from a billing analysis when the ratchet is applicable. That SDG&E's demand ratchet applies to small percentage of C&I customer accounts, is a strong indication that the ratchet is reasonably designed today and is implemented only for those customers with the greatest variability in monthly demands and poorest load factors. It does not follow that eliminating the ratchet will result in the same small numbers of accounts with poor load factors and high variability in demands or that providing the subsidy to these customers is okay because many customers won't notice the size. What is more likely to occur is that as distributed generation increases and those customers become de facto poor load factor customers, then the subsidy from higher load factor customers is likely to increase without the demand ratchet. Fuelcell acknowledges the possibility of cost shifting but indicates that it could be offset over time by benefits from distributed generation. (Fuelcell, Testimony of Steven C. McClary, p. 17) SDG&E believes that the Commission should set rates on a cost basis today and not encourage new subsidies that may be offset some time in the future.

FuelCell indicates that SDG&E's demand ratchets will discourage the development and deployment of new DG and have eroded savings for customers as a result of transitory outages that are outside the control of the DG and that are the result of disturbances on SDG&E's system. FuelCell also claims that these direct adverse rate impacts have resulted in the cancellation of future DG installations for some of its clients California sites. (FuelCell, Testimony of Steven C. McClary, p. 6-7) The principle of applying demand ratchets is addressed above. The specific

issues related to transitory outages and disturbances ~~is~~are addressed in the rebuttal testimony of SDG&E witness Velasquez.

III. COMMODITY DEMAND CHARGES

For the commodity rate component, SDG&E incurs capacity and energy costs related to the generation of electricity. Capacity is the resource and associated costs to meet instantaneous demand, e.g., a 500 MW power plant provides 500 MW of generation capacity to meet 500 MW of customer demand at any moment in time. Energy costs vary over time and are generally the variable costs associated with running the same 500 MW power plant for X number of hours. SDG&E currently recovers its total commodity costs through energy only rates and proposes to recover 50% of its capacity costs through monthly maximum period demand charges and the remainder of commodity costs through energy charges. SDG&E's current rates result in a subsidy from high load factor customers to low load factors and SDG&E's proposal gradually moves to eliminate that subsidy. Using the same hypothetical customers discussed in Section II, above, SDG&E must invest in generation to meet the 100 kW demand imposed by Customer A and the 25 kW demand imposed by Customer B for 1 hour. If Customer A had a load profile similar to Customer B then SDG&E could reduce its capacity investment by half. By using demand charges to recover its capacity costs, SDG&E will appropriately assign a greater share of capacity costs to customers with poorer load profiles and provide a price signal to flatten loads over time.

The City of San Diego opposes SDG&E's proposed commodity demand charge because they claim that it is based on the wrong demand determinants, sends incorrect price signals because it results in lower peak energy charges, and is inconsistent with SDG&E's testimony regarding residential rates. (City of San Diego, Testimony of William A. Monsen, ~~pp~~. 23 - 29)

The City argues that the demand determinants are incorrect because SDG&E uses maximum peak period instead of coincident peak period demands. SDG&E proposes that maximum monthly peak demand determinants be used because that is what is available for the vast majority of C&I customers (200 kW or less) and the maximum monthly peak period demands provide a measure of customer contribution to peak period capacity costs. SDG&E's proposed demand charges are initially based on an allocation of marginal generation capacity costs according to the class average contribution to the system peak demand. With the exception of Schedule A6-TOU, which employs demand charges coincident with system peak, SDG&E's

demand charges are based on coincident peak demand but recovered through rate schedules via maximum monthly peak demands. SDG&E's proposal is gradual movement towards coincident peak commodity demand charges. As SDG&E has the capability to measure coincident peak demand for its C&I customers, through the roll-out of AMI, it will have the necessary demand determinants to recover demand charges on a coincident peak demand basis but even at that time there may still be customer acceptance issues over such rates. Rather than form a basis for rejection of SDG&E's proposal, the use of the maximum monthly demand billing units should be viewed by the Commission as gradual implementation of the commodity demand charge.

The City claims that SDG&E's commodity demand charge provides a strong disincentive to install new solar systems because the solar generation will not be able to offset all load during the peak period hours and because the commodity demand charge comes at the expense of peak period energy charges thus lowering credits. (City of San Diego, Testimony of William A. Monsen, pp. 24 - 26) SDG&E's proposed demand commodity demand charge is intended to send the cost based price signal to customers regarding capacity. If solar generation is not capable of offsetting the customer's load during peak periods, for whatever reason, then SDG&E's proposed rates charge the customer for the loads that it imposes on the system. If the City prefers a commodity rate based on coincident peak determinants then it should consider SDG&E's proposed CPP rates as an option. Under current commodity rates, without a proposed demand charge, low load factor customers receive a subsidy from higher load factor customers. SDG&E's proposal will mitigate this subsidy and provide cost based prices for solar installations. To the extent that solar is able to offset a customer's load during the peak period they receive due value by avoiding demand charges. Finally, SDG&E proposes Schedule DG-R in its rebuttal testimony that is applicable to solar and DG units that meet its eligibility requirements. Schedule DG-R does not use commodity demand charges and instead replaces SDG&E's proposed commodity demand charges with energy components.

The City claims that a 2nd effect harming solar and energy efficiency is that customers will receive a lower peak energy credit when they generate to the grid because the demand charge results in lower peak period energy charges. (City of San Diego, Testimony of William A. Monsen, pp. 26 - 27) The peak period energy charge reflects SDG&E's proposed marginal costs, so to provide additional credits would result in increased subsidies to solar customers and energy efficiency. To the extent that energy efficiency does not reduce customer demand then the appropriate credit is the commodity energy charges. SDG&E proposes Schedule DG-R in its

rebuttal testimony that is applicable to solar and DG units that meet its eligibility requirements. Schedule DG-R does not use commodity demand charges and instead replaces SDG&E's proposed commodity demand charges with energy components.

The City claims that SDG&E's proposed commodity demand charge for C&I customers is inconsistent with SDG&E's proposals for residential rates. (City of San Diego, Testimony of William A. Monsen, pp. 27 - 28) This is another use of the argument that the Commission should use residential rate design as the standard for C&I rate design because the results benefit C&I customers with low load factors. Residential rates do not have demand charges on distribution or generation because historically it has been cost prohibitive to provide the metering equipment relative to the customer's total demand and energy on their bill, the desire for simplicity in residential rate design, and that fewer resources are devoted to residential customers to assist them in their understanding. On the other hand, demand charges are common for C&I customers and their use should not depend on whether the outcome sought were advanced by residential rate design.

IV. NET ENERGY METERING COMPLIANCE ISSUES

The City of San Diego argues that the Commission should require SDG&E to implement tariffs addressing net energy metering for combined technology DG systems consistent with D.05-08-013 and Resolution E-3992 immediately. (City of San Diego, Testimony of William A. Monsen, p. 40) As the City articulates, the issue relates to DG facilities at the same location that use different technologies and where not all of the DG is eligible for net metering credits. SDG&E, in a data response to the City and included as attachment WAM-4 to the City's testimony, indicated that it expects to file further revised tariffs, as recommended by the Energy Division Staff, in July 2007. The City states that as of August 9th, 2007, SDG&E has not made said filing. (City of San Diego, Testimony of William A. Monsen, pp. 39 - 40)

The issue at hand is an ongoing compliance matter. On August 13, 2007, SDG&E filed Advice Letter 1777-E-B, in compliance with E-3992 and D.05-08-013, and replacing Advice Letter 1777-E-A in its entirety. On August 31, 2007, the City of San Diego filed a protest to SDG&E's Advice Letter 1777-E-B. On September 10, 2007, SDG&E filed a response to the City's protest. The issue is before the Commission through the Advice Letter process and does not require adjudication in the instant proceeding.

V. MISCELLANEOUS CSD AND OTHER PARTY ARGUMENTS

A. Residential and Small Commercial Rate Design as the Standard for C&I Rate Design

CSD indicates that because SDG&E's residential rate design is based on all energy rates and that SDG&E is not harmed by this, then it somehow demonstrates that all energy rates will work for C&I customers. (City of San Diego, Testimony of William A. Monsen, p. 15) It is inappropriate to compare the residential and small commercial rate design with C&I rate design because: 1) energy rates for residential and small commercial customers are a function of the historically prohibitive costs of demand meters ; 2) residential customers are not typically as knowledgeable about sophisticated rate design as business customers; and 3) residential and small commercial customers typically have fewer resources devoted to evaluating their service. SDG&E continues its practice of applying distribution NCD charges to C&I customers based on cost causation principles and it is not a question of whether SDG&E can somehow make all energy rates work for C&I customers because they have done so for Residential and Small Commercial. SDG&E's policy is to promote movement towards cost based rates -- not additional subsidies. The Commission has approved more sophisticated metering in both SDG&E and PG&E's territory and is holding a proceeding to assess SCE's advanced metering proposal. Advanced metering will provide more dynamic pricing and more accurate price signals to customers. Moving C&I rates in the direction of residential rates is going backwards and contrary to the Commission's goals of providing dynamic pricing and promoting demand response through advanced metering technology.

In the City of San Diego's response to SDG&E's data request the City indicates that it desires to be treated like residential, small commercial and agricultural customers through all energy rates:

QUESTION: Do you believe SDG&E continues to incur costs associated with providing electric service to the City after the installation of solar?

-- If not, please explain why.

-- If yes, do you believe some of the costs are fixed costs?

-- If yes, do you believe the City should be responsible for paying the costs associated with providing it electric service?

-- If not, who should pay for those costs?

RESPONSE: Yes and the City believes that it should pay for the costs associated with electric service (including any fixed costs) based on net usage, similar to residential, Schedule A and Schedule PA customers.

The City agrees that SDG&E continues to incur distribution system costs even after the City's installation of solar, but the City's preference results in other customers paying for the cost recovery that was previously the responsibility of the City and for which solar may not avoid.

B. Demand and Energy Rate Design and Net Metering Credits

The City of San Diego is critical of SDG&E's demand component for distribution rate design because they claim that it does not permit them to receive the full net metering credit during periods when their customer self generation sends power to the grid. The City of San Diego claims that the distribution NCD charge discourages energy efficiency and is a disincentive to distributed generation and the installation of solar facilities. (City of San Diego, Testimony of Tom Blair, pp. 3-10; City of San Diego, Testimony of William A. Monsen, pp. 6-7)

Applying net metering energy credits from generation to distribution noncoincident demand components is incorrect because the net generation to the grid does not offset distribution costs and may not be representative of the distribution demands incurred by the customer during times when solar does not generate. Moreover, SDG&E's position is in compliance with the statute, which indicates that net metering credits are applicable to kWhs not kWs. California Public Utilities Code Section 2827(h)(B) and (C) state as follows:

> (B) For all eligible customer-generators taking service under tariffs employing "time of use" rates, any net monthly consumption of electricity shall be calculated according to the terms of the contract or tariff to which the same customer would be assigned to or be eligible for if the customer was not an eligible customer-generator. When those same customer-generators are net generators during any discrete time of use period, the net kilowatthours produced shall be valued at the same price per kilowatthour as the electric service provider would charge for retail kilowatthour sales during that same time of use period. If the eligible customer-generator's time of use electrical meter is unable to measure

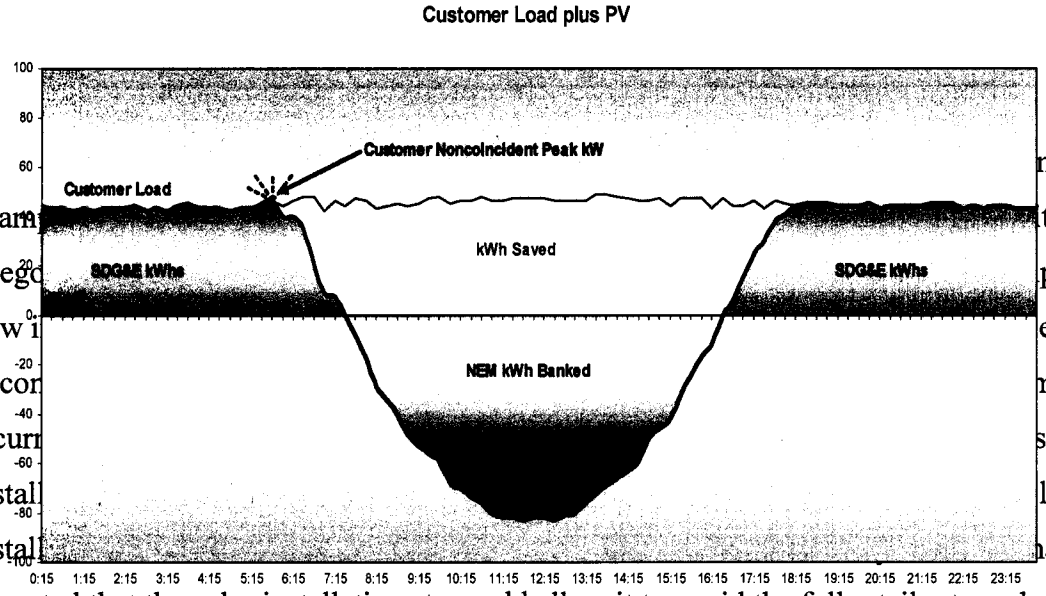
the flow of electricity in two directions, paragraph (3) of subdivision (b) shall apply.

(C) For all residential and small commercial customer-generators and for each billing period, the net balance of moneys owed to the electric service provider for net consumption of electricity or credits owed to the customer-generator for net generation of electricity shall be carried forward as a monetary value until the end of each 12-month period. For all commercial, industrial, and agricultural customer-generators the net balance of moneys owed shall be paid in accordance with the electric service provider's normal billing cycle, except that if the commercial, industrial, or agricultural customer-generator is a net electricity producer over a normal billing cycle, any excess kilowatthours generated during the billing cycle shall be carried over to the following billing period as a monetary value, calculated according to the procedures set forth in this section, and appear as a credit on the customer-generator's account, until the end of the annual period when paragraph (3) shall apply.

Clearly the statute refers to net metering credits applicable to net kilowatt hours produced and excess kilowatt hours generated—not demand components billed on a kilowatt basis.

Figure 3 below is for illustrative purposes and shows an example of the hourly load profile for a medium size commercial customer with solar and for one day when net usage is close to or equal to zero. Although the customer saves significant amounts through reduced energy consumption during the hours when solar produces, and is able to credit kWhs generated to the grid to offset other kWh usage, the customer's solar installation does not permit them to reduce their distribution NCD to zero. The distribution costs that SDG&E incurs to serve the customer do not go to zero despite the customer's zero energy usage that results from net metering credits. Suppose that the customer in this example has a 45 kW demand for the month and 0 kWh of usage, at the current distribution rate of $6.77/kW for secondary service under Schedule AL-TOU, the customer would be billed $305. If the Commission were to heed the complaints from the parties advocating greater subsidies for solar, then the Commission should be concerned that the customer might incur an infinite cost for power for the month in terms of the average price in $/kWh, despite the fact that the customer actually saves significantly from the installation of solar. Furthermore, the Commission should be concerned that other potential

solar customers might base their decision to install solar using the same average cost per kWh and thus might also pay an infinite cost for power once they install solar. It is unclear how a customer can afford an infinite amount for power, but the truth is that net metering credits provide substantial savings for solar customers and the distribution NCD charge appropriately recovers the cost of providing service to solar customers.



nt as an exam ty of San Diego plicated by how e is uncon mands incurr since the install lar install at it expected that the solar installations ~~to~~would allow it to avoid the full retail rate and maintain their same pre-installation average cost per kWh. (City of San Diego, Testimony of Tom Blair, pp. 4-5) However, such expectations would be unrealistic given the limitations of solar technology and the demands placed on the system by Alvarado, as well as a reasonable interpretation of the statute that is cited by the City concerning net energy metering credits. The

City expected that the solar installation at Alvarado would allow them to avoid SDG&E's entire retail rate and SDG&E interprets this to mean that the City expected to pay zero. When SDG&E asked the City, in a data request, for all documents, workpapers, and analysis that lead the City to conclude that their electric bill from SDG&E would be zero, the City responded:

> RESPONSE: The City does not believe that under SDG&E's current tariff that its bill "would be '0'." In addition, the City notes that if it were taking service under PA, its bill under the circumstances described in its testimony (e.g., when the value of the energy delivered exceeds the value of energy used), would be zero and the City believes that this is the appropriate treatment, given State and Commission mandates to encourage solar and other renewable technologies.

For whatever reason, the City's response indicates that it does not believe that its bill would be zero. The City then goes on to indicate that if they were taking service on schedule PA that their bill would be zero under the same circumstances. However, there is nothing preventing the City from applying for service under Schedule PA. Schedule PA is for agricultural power service and if the City believes that the Alvarado water treatment plant meets the eligibility requirements for Schedule PA then they can apply for service. The City indicates that this is the appropriate treatment given State and Commission mandates to encourage solar and other renewable technologies. However, the State and the Commission have not mandated that solar and renewable technologies should be given the largest subsidy that they can discern from a review of utility tariffs. The City's response further demonstrates its apparent misunderstanding of the statute with respect to net metering energy credits that led it to believe that its bill would be zero. That is to say, if net metering energy credits were required to be applied to demand charge components of the bill, then the City would not need to seek service on other tariffs or to change existing tariffs to treat them as if they were on another tariff that does not have demand charges. The City could simply ask the Commission to order SDG&E to comply with the statute and commence applying net metering energy credits against the entire bill, including demand charge components. It is noteworthy that the City is silent in its testimony and data responses with respect to such a recommendation. Further examination of the details regarding the City's Alvarado water treatment plant example is provided below.

The City uses the Alvarado Water Treatment Facility ("Alvarado") on Schedule PA-T-1 Option D as an example of why demand charges are anti-solar. Schedule PA-T-1 is an

experimental power optional time of use rate for agricultural and pumping purposes where the customer can select one of several TOU options for service. To the extent that a customer can manage their load, then Schedule PA-T-1 provides the opportunity for lower monthly bills compared to Schedule AL-TOU due to the smaller peak period and because demand charges are not applied outside the peak and semi-peak periods. The customer in this instance selected Option D, which provides for the following TOU periods:

	Schedule PA-T-1 Option D	May 1 – Sept. 30 Weekdays	All Other Weekdays
On Peak		1 P.M. – 3 P.M.	5 P.M. – 8 P.M.
Semi-Peak		6 A.M. – 1 P.M. 3 P.M. – 10 P.M.	6 A.M. – 5 P.M. 8 P.M. – 10 P.M.

From a review of the time periods, Option D provides the customer with a 2 hour window during weekdays (1-3 P.M.) over which the summer peak period distribution demand charge may be applied. If customer load on the SDG&E system is avoided during this small summer peak period window (the normal window is 11 A.M. - 6 P.M. for customers of this size) then the customer is able to avoid the summer peak distribution demand charge of $5.23 per kW for primary level service (based on 1-1-2007 rates). The City indicates that the demand charge is $5.46 per kW in their testimony but the amount cited by the City includes $0.23/kW for the CTC rate component. The distribution demand charge for semi-peak on 1-1-2007 was $1.37 per kW—not the $5.30/kW indicated in the City's testimony. It appears that the City included demand charges for Transmission, CTC, and Reliability Service in its calculations, but the issue in the instant proceeding is the distribution demand charge.

Further inspection of the City's testimony shows that the billing provided is for the month of April, a winter month where the peak period demand charge window is 5-8 P.M.

The distribution demand charge applicable under Option D is a maximum peak and semi peak period demand charge— which is not the same as the distribution NCD charge that would apply if this account were on Schedule AL-TOU. Schedule PA-T-1 sets forth under Special Condition 9 that:

9. Demand Charge Option B through F. The Demand Charge will be based on kilowatts of maximum demand as measured each month during the On-Peak

and Semi-Peak Periods. The Maximum Demand during the On-Peak and Semi-Peak Periods shall be the average kilowatt input during the fifteen-minute interval in which the consumption of electric energy is greater than in any other fifteen minute interval during the respective Periods, as indicated or recorded by instruments installed, owned and maintained by the utility.

To the extent that the customer's solar system offsets load during the peak and semi peak hours then the customer avoids the distribution demand charges. The NCD charges applicable to a customer on this rate would be for the Transmission and Reliability Service components, which are subject to FERC jurisdiction and that are otherwise outside the scope of this proceeding.

Under a favorable experimental rate, the solar generation did not sufficiently offset the customer's load and thus Alvarado could not avoid all of the distribution demand charges. The issue here might otherwise be framed as the City's unrealistic expectations regarding solar given the load at Alvarado and the statute requirements with respect to net metering credits applying to demand charges.

Rebuttal of the City's example of the Alvarado treatment plant should end above, but unfortunately the City makes the claim that because they did not use any energy during the month that the charges billed for are de facto standby rates and are thus contrary to statute that prohibits standby charges for solar installations. (City of San Diego, Testimony of Tom Blair, p. 6) Looking at the City's Table 1, it appears from their own example that the Alvarado treatment plant imposed demands on the SDG&E system during both peak and semi peak periods of 328 kW and 436 kW, respectively. The energy usage is positive during the peak period and demand is positive so the Alvarado water treatment plant used the SDG&E system during the peak period, which is contrary to the City's "de facto" standby claim. Breaking it down further, the City's table shows negative energy during the semi-peak period but positive demands. The negative energy indicates that the City was a net generator to the grid for the entire semi peak period hours but the positive demand indicates that for some portion of those hours the solar generator did not offset the customer's load and they demanded power from SDG&E's system. In their argument the City is mismatching energy generated by their solar with their demand for power from SDG&E. The bottom line is that the City did not receive a zero bill in the example presented because they imposed demands on the system and were billed accordingly.

The City discusses the Oak Park Library ("OPL") as another example where SDG&E's rate structures discourages installation of solar facilities. (City of San Diego, Testimony of Tom Blair, pp. 7-9) The OPL apparently benefited from receiving service at Schedule A rates when it should have been classified for service on Schedule AL-TOU. The OPL may have received a significant financial benefit over time only because SDG&E could not measure its demand level with the existing metering equipment. Once the account was correctly reclassified as AL-TOU, after interval meters were installed due to the OPL's installation of solar, the customer's measured demand level disqualified it from service under Schedule A. It is unclear what the City knew regarding the demand level of the OPL prior to installation of solar but apparently enough was known to install 20 kW of solar capacity. It is unfortunate for the City that the subsidy that they received when they were misclassified as a Schedule A customer cannot continue to be applied to their solar installation but SDG&E believes that the OPL account demonstrates why greater transparency in cost based rates, including the continued practice of applying distribution NCD charges, is needed instead of a rate structure that will hide subsidies through all energy charges, i.e., under the City's approach the misclassification of a customer becomes the basis for preferential treatment at the expense of other customers. The City argues that their average rate per kWh has increased since being transferred to AL-TOU, and while this is true, it is not a meaningful comparison given that the City apparently received a subsidy while the OPL account was misclassified for Schedule A service. After reading the City's OPL example the Commission should ask whether billing errors and misclassifications that have worked in the customer's favor should become the basis for future rate design treatment in order to promote a desired outcome? In this instance, following the City's example, because OPL paid all energy rates as a misclassified Schedule A customer, then all energy rates should be extended to its proper Schedule AL-TOU classification. SDG&E believes that the Commission should reject the City's argument with respect to OPL because it appears to put subsidies for solar above the proper application of SDG&E's tariffs.

The City is concerned that there may be other accounts that could be reclassified from Schedule A to AL-TOU once the metering technology is installed, either as a result of solar installation or the installation of AMI. (City of San Diego, Testimony of Tom Blair, p. 9) SDG&E believes that this is a real possibility as well but it does not justify changing AL-TOU such that the accounts that have benefited from misclassification can extend their subsidies. The City has identified an issue that results from metering equipment being installed on site that is

capable of measuring demand and energy, but the City would rather change the rates to continue to hide subsidies received by those accounts. The issue that the City addresses is applicable to customer load growth as well and following the City's logic a customer who experiences load growth should not be reclassified as Schedule AL-TOU, or the terms of Schedule AL-TOU should be modified in order to shift the costs of the load growth to other customers. SDG&E believes that solar installations should not be promoted by rate misclassification or billing errors but by reasonable cost based rates, including the continued application of the distribution NCD charge.

The City uses examples like the Bud Kearns Pool ("BKP") and Allied Gardens Pool ("AGP") to demonstrate why SDG&E's rates allegedly discourage energy efficiency measures. (City of San Diego, Testimony of Tom Blair, p. 9) The City's argument is that because the BKP and AGP have periods where they use little or no energy that the distribution NCD charges and higher average rate per kWh paid in those periods discourages energy efficiency measures. The City cites an average rate of well over $7 per kWh in 2 months to support its claim. The distribution NCD charges are appropriately billed to the customer and reflect the fact that distribution system is designed primarily to serve customer specific load. The fact that BKP and AGP reduce demand in a couple of months does not lower the investment in the distribution system to serve their NCD. From a review of Table 3 in the City's testimony it is apparent that the BKP account experienced significant bill reductions when the pool was closed, more than $1700 compared to its January billings. From a review of Table 4 it appears that the AGP bill dropped by about $1100 from the prior month. As for the City's concerns about $7/kWh average rate for the BGP, their claim is misleading at best. The higher average rate for those months is a mathematical result from dividing significantly lower total costs by a smaller amount of kWhs. The average rate "increase" means that distribution demand costs that are billed on a $/kW basis now make up a higher share of a lower total bill. Or to look at it another way, if there was any real meaning to this $7/kWh "average rate" then according to the City's logic they should have a strong financial incentive to install energy efficiency measures or if BKP had zero energy usage, then the City would have an infinite incentive to install energy efficiency measures.

The City's example of the Canyonside Recreation Center ("Canyonside") further demonstrates why SDG&E's distribution NCD charges are appropriate. (City of San Diego, Testimony of Tom Blair, pp. 11 - 13) Canyonside is a very poor load factor customer, using the City's Table 5, calendar year 2006 billings, it has about a 9% load factor. (City of San Diego,

Testimony of Tom Blair, p. 12) Thus, Canyonside creates a significant demand (greater than 300 kW) on the SDG&E distribution system for a short period of time and in other hours utilizes distribution facilities at a much lower rate. SDG&E must design its distribution system to serve the large demands placed on it by Canyonside and that investment does not go away nor should it be shifted to other customers through the application of all energy charges. It is unclear to SDG&E why the City installed solar at a site with such a significant evening demand but the Commission should not require other customers to subsidize this solar investment through the elimination of the distribution NCD charge as proposed by the City. Instead, the continued use of SDG&E's distribution NCD charges with the ratchet helps to ensure that poor load factor customers like Canyonside pay for the cost of providing service to them.

The City's example of the Cabrillo Heights Park ("~~Cabrillio~~Cabrillo") is similar to Canyonside. (City of San Diego, Testimony of Tom Blair, pp. 13 - 14) Cabrillo is another account with a poor load factor, about 2% based on the 2006 billings set forth on the City's Table 6. (City of San Diego, Testimony of Tom Blair, p. 14) Yet Cabrillo's distribution NCD is large enough, greater than 40 kW, to classify it for service on Schedule AL-TOU. Again, SDG&E must size its distribution facilities to meet Cabrillo's NCD. Applying the distribution NCD charge ensures that customers like Cabrillo pay for the cost to serve them and are not subsidized by other customers.

The City indicates that it seeks classification of its ball fields like Canyonside and Cabrillo for service on SDG&E's Schedule A. (City of San Diego, Testimony of Tom Blair, p. 14) This recommendation is addressed in the rebuttal testimony of SDG&E witness Mr. Robert W. Hansen.

The City indicates that it is uncertain regarding its potential investment in up to 600 MW of solar. (City of San Diego, Testimony of Tom Blair, pp. 14 - 15) SDG&E encourages the Commission to approve SDG&E's proposed C&I rate design, including the continued application of distribution NCD charges with the ratcheting mechanism, so that the City may utilize cost based rates in its decision making process.

The City recommends that the Commission adopt a voluntary energy only rate for C&I customers and points to rates currently in effect for PG&E as examples. (City of San Diego, Testimony of William A. Monsen, pp. 13 - 14) As stated previously in this testimony, and alluded to in the City's testimony, (City of San Diego, Testimony of William A. Monsen, p. 14), all energy rates will result in cost shifting such that higher load factor customers will provide

greater subsidies for low load factor customers and for solar installations. SDG&E disagrees with the City regarding the treatment of the subsidy and believes that the proper venue for this solution is the Commission where increased subsidies for solar can be sought and recovered from all customers through a non bypassable charge.

As an alternative to an optional energy only rate for all C&I customers, the City proposes that the Commission approve an all energy rate for C&I customers applicable to customers with solar installations. (City of San Diego, Testimony of William A. Monsen, pp. 15 - 18) The City claims that SDG&E does not have a solar friendly rate for C&I customers and that rates with significant demand components are apparently prohibited by SB1. (City of San Diego, Testimony of William A. Monsen, pp. 15) The section of SB1 cited by the City refers to electricity production not the distribution component of electric service. SB1 encourages time variant cost based rates for electricity production such that both the solar customer and other customers paying for the subsidies provided by SB1 receive due value for the solar output and the avoided generation costs. Contrary to the City's position, SDG&E's proposes time variant, cost based commodity rate components for demand and energy, as well as an all energy commodity option through CPP. Schedule DG-R is an option for customers with qualifying solar and DG systems and which charges them on an energy only basis for commodity and replaces the maximum peak period distribution demand charges with energy charges. The PG&E rate cited by the City is the result of settlement and does not serve as precedent for SDG&E.

Vote Solar provides testimony from the Del Mar Fairground ("Del Mar") to provide a customer's perspective on SDG&E's demand charges and presumably to support their proposal for all energy rates. (Vote Solar, Testimony of Joseph Thomas Baker, pp. 38-39) Vote Solar indicates that they have seen virtually no demand charge savings from the solar installation at Del Mar. (Vote Solar, Testimony of Joseph Thomas Baker, p. 38) The reason that there have been virtually no distribution demand savings at Del Mar is that the solar installation does not offset the load placed by Del Mar on the distribution system. In fact, it does not even come close. Figure 3 below sets forth the annual average hourly load profile for Del Mar for 2006 and shows that the solar installation offsets only a fraction of the Del Mar hourly load. Del Mar is a low load factor customer with a very high seasonal load resulting from the fairground operations. SDG&E's distribution NCD charges are appropriately applied to Del Mar because SDG&E must design its distribution facilities to serve their peak load. Figure 4 below sets forth the 2006 monthly consumption and monthly max demands of Del Mar and illustrates the poor load factor

and variability in their load. The continued application of the distribution NCD charge and the associated ratchet is precisely for customers like Del Mar so that they pay for the costs to serve them. The fact that their solar installation does not offset their distribution demands in other periods is not an indictment of SDG&E's continued practice of applying distribution NCD charges but an example of the limitations of solar to offset a customer's load.

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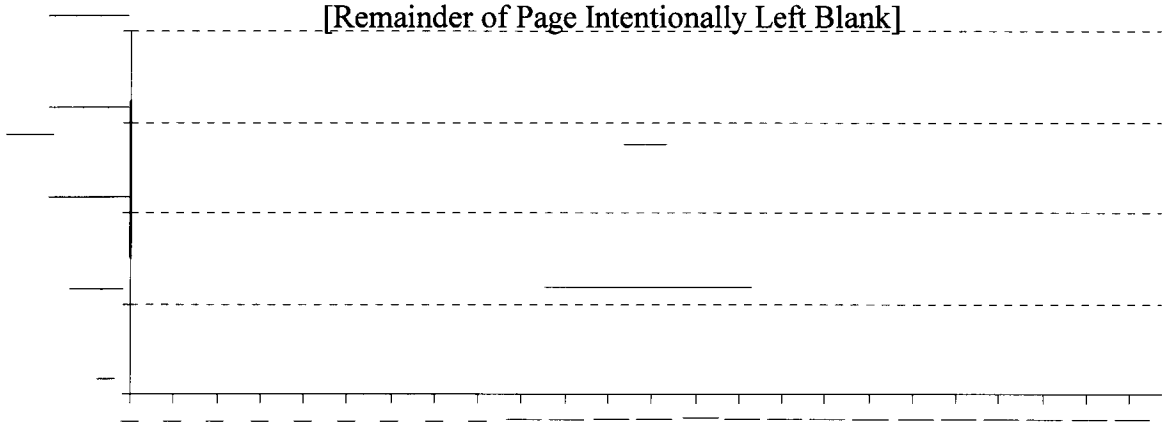

Vote Sc[redacted]ctive on SDG&E's dem[redacted]rates. (Vote Solar, Testimo[redacted]SDG&E's demand charge[redacted]predicting the solar output[redacted]ms that it is SDG&E's demand charges that reduce Macy's ability to invest in solar, but it is the solar generation that does not offset Macy's distribution demands. Despite Macy's laudable goals of promoting solar, their proposal is to shift the costs of serving them (that solar generation does not avoid or reduce) on to other customers through all energy charges.

Vote Solar presents the testimony of Solar Power Partners, Inc. to provide an installer's perspective on SDG&E's demand charges and presumably to support their proposal for all energy rates. (Vote Solar, Testimony of Todd Michaels, pp. 40 - 43) Vote Solar indicates that SDG&E's high demand charges are the difference in the growth of solar in its territory versus other IOUs' service areas. (Vote Solar, Testimony of Todd Michaels, pp. 42 - 43) Vote Solar indicates that solar will reliably offset kWhs but not demand. (Vote Solar, Testimony of Todd Michaels, p. 41) Solar generation has limitations with respect to offsetting a customer's load, during daylight hours and of course at night, and the Vote Solar position of all energy rates allows the solar generation to credit kWhs generated to the grid in one period against kWhs that they consume in other periods despite the fact that solar generation does not offset SDG&E's distribution costs in other periods. Thus, the Vote Solar position is primarily one of cost avoidance and shifting to other customers. Other IOUs have apparently provided rate options through settlement to support the solar industry, but SDG&E believes that all of its customers are best served by cost based rates and that additional subsidies required by solar generation should be sought from the Commission and recovered from all customers through a nonbypassable charge. However, SDG&E considers Schedule DG-R as a reasonable compromise on this issue. Schedule DG-R is applicable to solar and DG units that meet the requirements of SGIP and are up to 500 kW in size. Schedule DG-R replaces the proposed commodity demand charge with an energy component and replaces the distribution maximum peak period demand charges with energy components.

Vote Solar indicates that demand and customer charges thwart energy efficiency efforts because they are difficult or impossible to avoid. (Vote Solar, Testimony of Robert Redlinger, pp. 43-45) SDG&E's customer costs are fixed in nature and do not vary with a customer's energy or demand usage. Vote Solar's proposal would shift the costs for billing and metering on to other customers for something that solar technology does not otherwise allow the customer or SDG&E to avoid.

D. Solar Alliance

Solar Alliance provides a discussion of the background of solar energy issues in California and the issues that lie ahead. SDG&E disagrees with how the Solar Alliance proposes to implement its four main recommendations. (Solar Alliance, Testimony of R. Thomas Beach, pp. 3 -4)

SDG&E agrees in general with the Solar Alliance recommendation 1 that the tariff should create the maximum incentive for ratepayers to install solar systems whose peak production coincides with California's peak electricity demands, but SDG&E disagrees that energy only charges are the best approach. Energy only charges would increase the incentive to solar customers but they also allow the solar customer to avoid costs that SDG&E does not avoid and thus shifts cost recovery to other customers. Solar Alliance provides an example where a solar customer's generator may not provide sufficient output to offset load due to cloudy conditions such that a single 15 minute outage could reduce their value despite the remainder of the month's operation at otherwise higher output. (Solar Alliance, Testimony of R. Thomas Beach, pp. 15-18) The Solar Alliance example may not represent the true nature of solar electricity production over the course of the month with the result being that solar reliability is dependent on more than one 15 minute cloud covering during the month. It appears that the Solar Alliance realizes this in their discussion on p. 18 of their testimony, but SDG&E must serve the customer load regardless of the load profile or size of the customer's solar. SDG&E proposes rates that recover costs from all customers based on how they are incurred, including the continued application of the distribution NCD charges.

SDG&E agrees with Solar Alliance recommendation 2 regarding ratepayers receiving due value for their contribution to the purchase of solar energy systems but disagrees with the part that recommends minimal use of demand charges. (Solar Alliance, Testimony of R. Thomas Beach, p. 4) To the extent warranted according to cost causation principles SDG&E believes that

demand charges should be applied even for solar customers in order to minimize cost shifting to and subsidies from other customers. Thus, SDG&E recommends the continued application of the distribution NCD charges and its proposed commodity demand charge.

SDG&E agrees with Solar Alliance recommendation 3 regarding ratepayers having an incentive for energy efficiency through TOU rates but disagrees with the part that recommends all volumetric rates. (Solar Alliance, Testimony of R. Thomas Beach, p. 4) SDG&E is concerned that all volumetric rates do not reflect cost causation principles and will shift costs from low load factor customers for costs that SDG&E does not avoid, e.g., distribution facilities. Thus, SDG&E promotes TOU rates but also recommends the continued practice of applying distribution NCD charges and its proposed commodity demand charge.

SDG&E agrees with Solar Alliance recommendation 4 that would allow customers the option of TOU tariffs, and SDG&E currently allows C&I customers different TOU rate schedules as well as SDG&E's proposed schedule DG-R. SDG&E views the applicability of this recommendation to residential customers only to the extent that all of the residential TOU optional rates are exempt from AB1X.

E. SDG&E's Rates and Compliance with SB1

The City of San Diego claims that SDG&E's rates do not comply with the provisions of SB1 because of the use of demand charges and that they do not provide the maximum incentive for solar producers at the time of system peak. (City of San Diego, Testimony of William A. Monsen, pp. 15-18)

SDG&E's C&I rates provide the maximum incentive to solar generation during system peak by pricing the commodity rate components at their time variant cost. The objection from the City is that an all energy rate instead of rates with demand components will result in higher peak period energy charges and thus will provide greater incentives to solar customers. SDG&E agrees with this argument to the extent that "incentives" are replaced with "subsidies", however this is not consistent with how costs are incurred on SDG&E's system. To the extent that solar generation is able to offset the customer's peak period load then the customer receives the maximum incentive and SDG&E is able to avoid costs as well. But if solar generation has no effect on distribution demand during hours when solar does not generate or it does not consistently offset a customer's own load during peak periods then solar customers should pay

their share of costs for using the system rather than be granted additional subsidies from customers by distorting the rate design.

This concludes my rebuttal testimony.

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for Authority to Update Marginal Costs,)
Cost Allocation, And Electric Rate Design (U 902-E))
_____)

Application No. 07-01-047
Exhibit No.: (SDG&E-_____)

REVISED REBUTTAL TESTIMONY

OF THOMAS O. BIALEK

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC ~~UTLITIES~~UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

~~SEPTEMBER 24,~~OCTOBER 4, 2007

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~~PREPARED~~ REBUTTAL TO THE TESTIMONY OF TOM BLAIR

~~OF~~

~~THOMAS O. BIALEK~~

~~I. INTRODUCTION~~

~~The purpose of my rebuttal testimony is to address the issue of distribution non-coincident demand charges from a distribution system perspective.~~

~~A. Demand Charges are required for recovering cost of installing infrastructure to serve commercial and industrial customers.~~

1. SDG&E plans and designs its system to meet customer's peak load needs.

SDG&E designs and installs electric infrastructure to support customer peak demands ~~that exist in two forms, on-peak demand and non-coincident demand. Individual customer on-peak demands aggregate to system coincident demand. Non-coincident demand is anytime demand, specific to an individual customer. SDG&E's design criteria require that the distribution system be designed to support both on-peak coincident demand and non-coincident demand~~. A typical distribution circuit consists of feeders, branches, and services. ~~Feeders serve as the backbone of a circuit designed to support on-peak coincident demand. Branches are designed to serve customers in support of aggregate non-coincident demands. Services such as~~ The infrastructure that SDG&E installs is comprised of predominately fixed cost component such as poles, conduit, insulators and meters. The variable cost components include conductors and, transformers ~~and meters serve individual customers in support of their non-coincident demand. SDG&E's distribution system, captured in 2007, consists of 3,626 miles of feeders, 12,899 miles of branches and 10,670 miles of services. The total of branches and services is 23,569 miles or 87% of the distribution system; it also means that 87% of the distribution system is designed to support customer non-coincident demand. From an investment stand-point, using streamline~~

~~construction unit costs of $250,000 per feeder mile, $150,000 per branch mile and $40,000 per service mile, SDG&E has invested approximately $906,500 million in feeders and $2,575,000 million in branches and services. The total investment on branches and services is 74% of investments; it also means that 74% of all investments were to support customer non-coincident demand.~~which are sized commensurate with the load. SDG&E's design and purchasing practices are such that the majority, approximately 80%, of an infrastructure project's cost is fixed and does not vary with load as has been recognized by the Commission[1].

~~It's undisputable that infrastructure is designed and installed to support non-coincident demand, and its associated cost is much greater than those for on-peak coincident demand. It's also indisputable that the design and installation of electric infrastructure are not based on energy consumption. It's even more compelling that energy consumption should not be used to recover infrastructure investment on commercial and industrial for the following reason:~~

- ~~Demand and consumption of commercial and industrial customers vary widely and dis-joint. Commercial and industrial demand varies from tens of kilowatts to thousands of kilowatts, and consumption does not change accordingly with demand. Commercial and industrial whose operation is seasonal (e.g. water park, recreational facilities, swimming facilities, Qualcomm stadium, and Petco park) are great examples where demand and consumption are dis-joint where demand is high but consumption low. SDG&E's investment on infrastructure would be similar for two commercial customers with comparable non-coincident demand regardless of their operation; nevertheless energy consumption would be much less for a commercial with seasonal operation than a commercial with year-round operation. In absence of the non-coincident demand charges, SDG&E would not be able to recover the infrastructure investment to support non-coincident demand. Or if energy consumption rates were adjusted for recovering infrastructure investment, then it would be unfair for year-round commercial to subsidize for seasonal commercial.~~

[1] D.01-07-027, pg.57 "We find that most of the distribution system costs to serve standby customers appear to be fixed in nature."

~~In summary non-coincident demand charges are essential and should be stand alone charges for recovering cost of installing infrastructure to support non-coincident demand because (1) investment on infrastructure to support non-coincident demand is the largest of all investments, (2) investment on infrastructure is not based on consumption, (3) using energy consumption to recover infrastructure investment would create huge disparity and unfairness for customers.~~

The Commission in D.03-02-068, pg. 18 defined the criteria by which distributed generation could allow a utility to avoid T&D infrastructure:

> "SDG&E outlines the criteria distributed generation must meet to allow the utility to defer capacity additions and avoid future cost. The distributed generation must be located where the utility's planning studies identify substations and feeder circuits where capacity needs will not be met by existing facilities, given the forecasted load growth. The unit must be installed and operational in time for the utility to avoid or delay expansion or modification. Distributed generation must provide sufficient capacity to accommodate SDG&E's planning needs. Finally, distributed generation must provide appropriate physical assurance to ensure a real load reduction on the facilities where expansion is deferred. There is potential that distributed generation installed to serve an onsite use will also provide some distribution system benefit, however, unless it meets the four planning criteria describe by SDG&E, such benefits will be incidental in nature."

SDG&E planned designed and built the infrastructure prior to the installation of the City of San Diego's installation of photovoltaic systems. Therefore, SDG&E has already invested in infrastructure to serve the City of San Diego's load absent solar facilities and should be allowed to recover those costs from the City based upon cost causation principles and to avoid shifting costs to not only SDG&E's City of San Diego customers but also to SDG&E's San Diego and southern Orange County customers.

~~B.~~ 2. Solar facilities do not ~~reduce non-coincident peaks and demand charges are not stand-by charges.~~obviate the need to provide distribution service to the City of San Diego.

Solar facilities saved the City sizeable amount on energy consumption; they also help the City in reducing on-peak demand charges. Solar facilities however were not able to reduce ~~non-coincident~~or eliminate demand ~~especially~~ for facilities whose loads are in excess of the time dependant solar energy production or whose operation continued outside the window where solar facilities were able to generate power. ~~SDG&E system is~~Absent the City of San Diego investing in both a robust solar generating facility and energy storage system that allows the City to meet its facilities loads such that the City can disconnect from SDG&E, SDG&E's system, the City of San Diego's energy storage system, must always available to support the load when solar facilities ~~are not, and it's~~can not[2]. SDG&E provides this service with the same permanent system installed specifically for the customer prior to the installation of the City's solar facilities. Figures 1 and 2 shows the City of San Diego's Alvarado Water Treatment site energy consumption, energy production and the net load seen by SDG&E's system for March 16, 2007 and April 26, 2007 respectively. Both figures show that when the City's photovoltaic, PV, solar system is not operating, SDG&E's distribution system provides energy to serve the City's facility load (demand) even though the PV system is exporting power to the grid and per the City of San Diego the facility has reduced its net energy consumption to zero[3].

[2] The inverters in a PV system have a typical lifetime of 5 to 10 years based upon industry expectations. SDG&E's system will be required to provide service to the City of San Diego at a load level absent the solar facilities until these inverters are replaced and during forced outages of the solar facilities.

[3] Testimony of Tom Blair on Behalf of the City of San Diego Concerning the Application of San Diego Gas & Electric Company for Authority to Update Marginal Costs, Cost Allocation, and Electric Rate Design in A.07-01-047, pg.5, l. 4-6 "...For example, even though the City reduced its net energy consumption to zero during the billing periods from 3/15/07 to 4/15/07 and 4/15/07 to 5/14/07 at one of the Alvarado water treatment facility sites, the City did not reduce its energy bill to zero..."

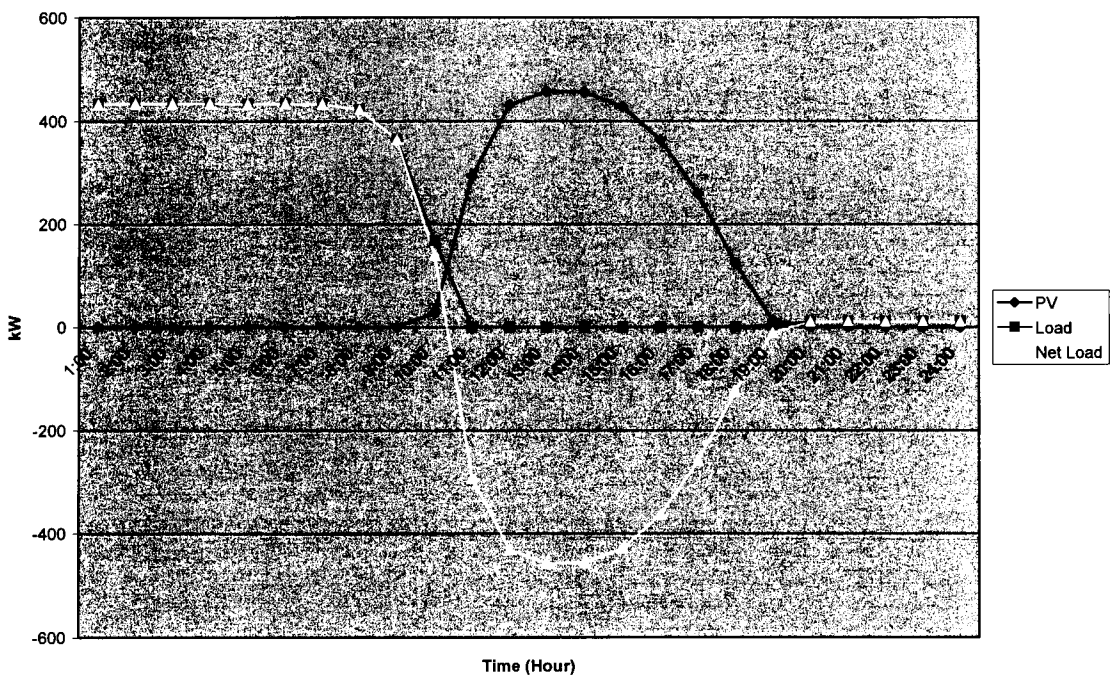
Alvarado Water Treatment Site 03/16/07
600
400
200
0
-200
-400
-600
kW
Time (Hour)
PV
Load
Net Load

Figure 1

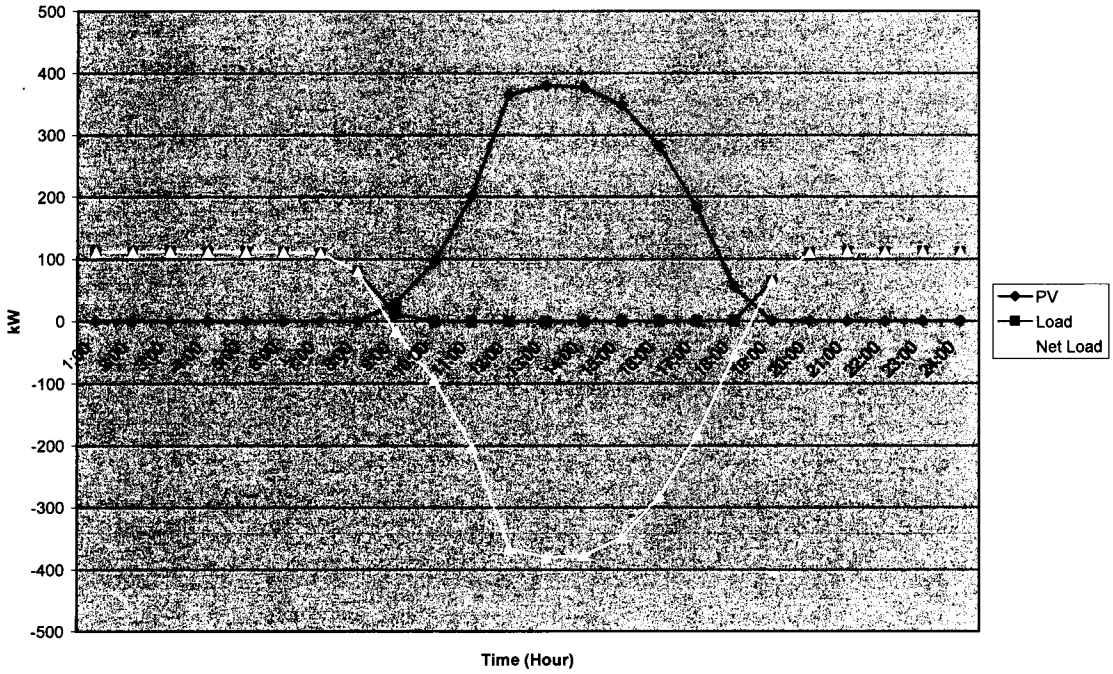

Figure 2

In conclusion ~~solar facilities were not able to reduce non-coincident demand or to help SDG&E in reducing~~while it is possible to reduce local distribution system loading due to solar facilities

SDG&E must still provide energy to these facilities and SDG&E is unable to reduce infrastructure investment.

~~Non-coincident demand charges are not de facto standby charges because SDG&E's system is the primary source to plants with solar facilities, not the stand-by source. Per our estimate, solar facilities would be able to generate electricity at best 10 hours per day, therefore SDG&E system will be serving load 14 hours per day, a period longer than the solar facilities. Therefore SDG&E is the primary source (not the stand-by source) utilized more than 50% of the time.~~

~~This concludes my rebuttal testimony.~~

II. QUALIFICATIONS

My name is Thomas O. Bialek, P.E. My business address is 8316 Century Park Court, San Diego, California 92123. I am employed by San Diego Gas & Electric Company ("SDG&E") as a Principal Engineer in electric Transmission and Distribution Planning. My present responsibilities involve a technical oversight role on distribution issues including equipment, operations, planning and distributed generation on behalf of SDG&E. These activities generally include technical review, policy development and strategic planning of distribution systems. I am also responsible for the preparation of exhibits and proposals for regulatory proceedings related to my areas of responsibility.

I have been employed by SDG&E since 2000 and have held various positions with other North American utilities and equipment manufacturers subsequent to that time. My experience includes electric utility design, planning and operation equipment design, development and manufacturing.

I received a Bachelor and Master of Science Degree in Electrical engineering from the University of Manitoba in 1982 and 1986 respectively. I am currently completing my doctoral Thesis in electrical Engineering in association with Mississippi State University. I am a registered Professional engineer, Electrical Engineering, in the State of California. In addition, I have actively participated in all the distributed generation rulemakings and workshops since 1998.

I have previously testified before the California Public Utilities Commission.

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for Authority to Update Marginal Costs,)
Cost Allocation, And Electric Rate Design (U 902-E))
_____)

Application No. 07-01-047
Exhibit No.: (SDG&E-_____)

REVISED REBUTTAL TESTIMONY

OF ROBERT W. HANSEN

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC ~~UTLITIES~~UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

~~SEPTEMBER 24,~~OCTOBER 4, 2007

REVISED PREPARED REBUTTAL TESTIMONY

OF

ROBERT W. HANSEN

The purpose of my rebuttal testimony is to respond to the City of San Diego's (City's) testimony regarding: (1) the applicability of SDG&E's current Schedule A rate for outdoor sports facilities, (2) the City's request for an induction lighting rate option, and (3) the City's preference to have small-use service locations unmetered.

Schedule A is SDG&E's standard service option for commercial customers with demands less than 20 kW. By approval of SDG&E Advice Letter 1880-E (Resolution E-4085, dated June 21, 2007), registered non-profit entities with lighting load such as Little League parks with demands of up to 100 kW are eligible to request service under Schedule A. The City of San Diego contends that applicability of Schedule A should be further expanded to include "similarly situated" City sport fields. (Ref, City of San Diego witnesses Blair at page 14, Monsen at pages 34–36). The City's preferable proposal, however, is that demand charge structures be entirely "optional" for all customers with demands up to 500 kW. (Ref. Monsen at page 36)

SDG&E believes that the City's proposal extends far beyond the narrow exception and limited subsidy that was approved by the Commission in Resolution E-4085. First, the example cited by the City, a ball field complex with a maximum demand in excess of 370 kW, would not qualify even if it were deemed to be "similarly situated" as a non-profit Little League ball park. SDG&E had no intention of expanding the small commercial energy-only rate structure to such a peaky, high demand service location. SDG&E's current very limited exemption and subsidy is only for ball fields registered as non-profit entities (under section 501(c)(3)) with lighting loads.

A demand charge rate structure is the preferred rate structure for C&I customers and should continue to be applied to City-owned sport fields. Portraying SDG&E's proposed demand/energy rate structure as being somehow inferior to a flat energy-only rate structure for a 500kW customer is outrageous. (Ref. Monsen at page 12 and at pages 34-36) A demand charge rate structure is an extremely common and proven method of pricing electricity. It can provide a strong incentive for a customer to control their peak demand on the system and to flatten their usage profile.

To contend that demand charges are inferior to an energy-only structure because demand charges don't provide the proper incentive for low load factor customers to further conserve

energy is a weak argument. (Ref. Monsen at page 12) The City's example of a low load-factor ball field with demands in excess of 370 kW (when adjusted for Solar PV installed) is the prime example of why a demand charge structure is necessary. Customers like the City of San Diego need price signals that reflect the demand that they place on the system. SDG&E must install and maintain a distribution system capable of serving the City's maximum demand regardless of when it occurs. An energy-only rate structure would greatly under collect the costs of providing service to very low load-factor locations as presented by the City of San Diego (based on data in Blair Table 5).

In summary, SDG&E is already obligated to design a "cost-based" lighting rate for such customers in its next rate proceeding. During that proceeding the energy-only rate will be reviewed to more appropriately reflect the time-of-use profile and peak demands of ball fields with lighting. SDG&E intends to revisit the exception granted to qualified non-profit entities as directed in Resolution 4085 in the next rate proceeding.

The City also proposes that SDG&E develop an "induction lighting rate" in its next rate design proceeding. (Ref. Testimony of Tom Blair at page 16). Mr. Blair states that the City is currently considering the possibility of installing induction lighting on its street lights. (Id.)

In fact, SDG&E induction lighting rate options are currently available to the City of San Diego.[1] The current lighting rate options have been available for several years, and were originally implemented by SDG&E ***at the request*** of the City of San Diego. The City should clarify its lighting service requests and concerns and simply communicate its concerns with their assigned SDG&E account representative. If the City now believes SDG&E's approved induction lighting rate options are not consistent with the City's new plans for induction lighting, SDG&E would be glad to consider additional induction lighting options in a future rate proceeding.

The City states that it has 325 meter locations with no annual usage, which the City would prefer to be unmetered. The City indicates that the meter locations are needed for switches and other ancillary power needs. (Ref. Testimony of Tom Blair at pages 16-17)

SDG&E notes that the metered locations referenced by the City are active accounts served under Schedule A. All active accounts under Schedule A are applied a monthly fixed charge intended to recover a portion of SDG&E's fixed costs of providing service. While

[1] Induction lighting rates for 55 watt and 57 watt facilities are available under Schedule LS-2, which is applicable to customer-owned facilities.

SDG&E does offer customers the option of unmetered service under Schedule UM, the current unmetered rate option is not applicable to situation that the City describes. Schedule UM has fixed costs built into its monthly charges and it would not provide 100 percent bill savings that the City is apparently seeking. SDG&E will consider the applicability of such low-~~used~~use meter locations during its deployment of advanced meters.

This concludes my prepared rebuttal testimony.

ATTACHMENT RWH-A
SAN DIEGO GAS & ELECTRIC COMPANY - ELECTRIC DEPARTMENT
GRC Phase 2 (A.07-01-047)

UNBUNDLED RATES FOR SCHEDULE DR - WITH SEPARATE TRAC RATES
BASED ON RATES EFFECTIVE JULY 1, 2007
($ per kWh)

DESCRIPTION (A)	TRANSMISSION (B)	DISTRIBUTION (C)	PPP (D)	NUCLEAR DECOMM. (E)	FTA (F)	CTC (G)	RS (H)	TRAC (aka 2006 RDSC) (I)	TOTAL UDC (J)	GENERATION (K)	DWR BOND (L)	TOTAL (M)
Summer												
Baseline Energy	0.00945	0.05754	0.00615	0.00046	0.00513	0.00219	0.00602	(0.04080)	0.04614	0.07784	0.00469	0.12867
101% to 130% of Baseline	0.00945	0.07068	0.00615	0.00046	0.00513	0.00219	0.00602	(0.03377)	0.06631	0.07784	0.00469	0.14884
131% to 200% of Baseline	0.00945	0.07068	0.00615	0.00046	0.00513	0.00219	0.00602	0.04296	0.14304	0.07784	0.00469	0.22557
201% to 300% of Baseline	0.00945	0.07068	0.00615	0.00046	0.00513	0.00219	0.00602	0.05203	0.15211	0.07784	0.00469	0.23464
Above 300% of Baseline	0.00945	0.07068	0.00615	0.00046	0.00513	0.00219	0.00602	0.06786	0.16794	0.07784	0.00469	0.25047
Winter												
Baseline Energy	0.00945	0.05754	0.00615	0.00046	0.00513	0.00219	0.00602	(0.01645)	0.07049	0.05349	0.00469	0.12867
101% to 130% of Baseline	0.00945	0.06295	0.00615	0.00046	0.00513	0.00219	0.00602	(0.00169)	0.09066	0.05349	0.00469	0.14884
131% to 200% of Baseline	0.00945	0.06295	0.00615	0.00046	0.00513	0.00219	0.00602	0.05961	0.15196	0.05349	0.00469	0.21014
201% to 300% of Baseline	0.00945	0.06295	0.00615	0.00046	0.00513	0.00219	0.00602	0.06843	0.16078	0.05349	0.00469	0.21896
Above 300% of Baseline	0.00945	0.06295	0.00615	0.00046	0.00513	0.00219	0.00602	0.08651	0.17886	0.05349	0.00469	0.23704

ATTACHMENT RWH-B
SAN DIEGO GAS & ELECTRIC COMPANY - ELECTRIC DEPARTMENT
GRC Phase 2 (A.07-01-047)

ILLUSTRATIVE UNBUNDLED RATES FOR SCHEDULE DR - WITH TRAC INCLUDED WITH DISTRIBUTION
BASED ON RATES EFFECTIVE JULY 1, 2007
($ per kWh)

DESCRIPTION	TRANSMISSION	DISTRIBUTION	PPP	NUCLEAR DECOMM.	FTA	CTC	RS		TOTAL UDC	GENERATION	DWR BOND	TOTAL
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Summer												
Baseline Energy	0.00945	**0.01674**	0.00615	0.00046	0.00513	0.00219	0.00602		0.04614	0.07784	0.00469	**0.12867**
101% to 130% of Baseline	0.00945	**0.03691**	0.00615	0.00046	0.00513	0.00219	0.00602		0.06631	0.07784	0.00469	**0.14884**
131% to 200% of Baseline	0.00945	**0.11364**	0.00615	0.00046	0.00513	0.00219	0.00602		0.14304	0.07784	0.00469	**0.22557**
201% to 300% of Baseline	0.00945	**0.12271**	0.00615	0.00046	0.00513	0.00219	0.00602		0.15211	0.07784	0.00469	**0.23464**
Above 300% of Baseline	0.00945	**0.13854**	0.00615	0.00046	0.00513	0.00219	0.00602		0.16794	0.07784	0.00469	**0.25047**
Winter												
Baseline Energy	0.00945	**0.04109**	0.00615	0.00046	0.00513	0.00219	0.00602		0.07049	0.05349	0.00469	**0.12867**
101% to 130% of Baseline	0.00945	**0.06126**	0.00615	0.00046	0.00513	0.00219	0.00602		0.09066	0.05349	0.00469	**0.14884**
131% to 200% of Baseline	0.00945	**0.12256**	0.00615	0.00046	0.00513	0.00219	0.00602		0.15196	0.05349	0.00469	**0.21014**
201% to 300% of Baseline	0.00945	**0.13138**	0.00615	0.00046	0.00513	0.00219	0.00602		0.16078	0.05349	0.00469	**0.21896**
Above 300% of Baseline	0.00945	**0.14946**	0.00615	0.00046	0.00513	0.00219	0.00602		0.17886	0.05349	0.00469	**0.23704**