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-__
Exhibit No.: (SDGE-09) _____

PREPARED DIRECT TESTIMONY
OF EDWARD FONG
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

JANUARY 31, 2007

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PREPARED DIRECT TESTIMONY

OF

EDWARD FONG

CHAPTER 9

I. INTRODUCTION

The purpose of this chapter is to provide a summary of proposed electric demand response and time differentiated rates (TDR) in this Application and the nexus with San Diego Gas & Electric's (SDG&E) Advanced Metering Infrastructure (AMI) deployment plan.[1] SDG&E's General Rate Case (GRC), Phase 2 proposes TDRs for all customer classes in conjunction with SDG&E's AMI electric meter deployment schedule. SDG&E is awaiting a final decision from the California Public Utilities Commission (CPUC or Commission) on SDG&E's AMI Application, (A.) 05-03-015, that proposed initial deployment of approximately 1.4 million electric meters and 900,000 gas communications modules by year-end 2010. A final decision on SDG&E's AMI application is pending with the Commission but will occur no sooner than March 1, 2007.

SDG&E is proposing the following TDRs by customer class as depicted in Table EF 9-1.

[1] SDG&E's AMI application, A.05-03-015, proposes to start deployment of AMI technology on a systemwide basis beginning in mid-2008 and complete replacement by year-end 2010. Specifically, see Chapter 12 (Gas Modules, Meter & Module Installations), of A. 05-03-015, p.JLC-1, lines 27-29.

Table EF 9-1

Time Differentiated Rates by Customer Segment

Dynamic Pricing Applicability							
Customer Segment	**Customers have interval meters?**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Large C&I (>200 kW)[2]	Yes All customers in this class have TOU meters. Will replace with AMI meters	Default CPP with Bill Protection first 12 months--customer may not Opt Out and receive service under the otherwise applicable commodity rate, Schedule, EECC during Bill Protection	Default CPP, no Bill Protection, customer may Opt Out	Same as 2009	Same as 2009	Same as 2009	Same as 2009
Medium C&I (20-200 kW)	No AMI meters installed 2008-2010	Default CPP with Bill Protection first 12 months for customers that have AMI Meter--customer may not Opt Out and receive service under the otherwise applicable commodity rate, Schedule, EECC during Bill Protection	Default CPP with Bill Protection first 12 months for customers that have AMI Meter--customer may not Opt Out and receive service under the otherwise applicable commodity rate, Schedule, EECC during Bill Protection	Default CPP with Bill Protection first 12 months for customers that have AMI Meter--customer may not Opt Out and receive service under the otherwise applicable commodity rate, Schedule, EECC during Bill Protection	Default CPP--customer may Opt Out	Same as 2011	Same as 2011
Small C&I (<20 kW)	No AMI meters installed 2008-2010	Default AS-TOU + PTR for customers that have AMI Meter--customer may Opt Out to other demand time differentiated rates	Default AS-TOU + PTR for customers that have AMI Meter--customer may Opt Out to other demand time differentiated rates	Default AS-TOU + PTR for customers that have AMI Meter--customer may Opt Out to other demand time differentiated rates	Default AL-TOU + PTR--customer may Opt Out	Same as 2011	Same as 2011
Residential	No AMI meters installed 2009-2010		PTR for customers that have AMI Meter	PTR for customers that have AMI Meter	PTR	Same as 2011	Same as 2011

[2] Effective for customers with interval meters as of 01/01/08

II. BACKGROUND

In the Commission's investigation and rulemaking proceeding on advanced metering, demand response and dynamic pricing, the State conducted the Statewide Pricing Pilot (SPP) involving some 2,500 residential and small commercial customers and authorized a litany of demand response programs for large commercial and industrial (C&I) customers.[3] At the Commission's direction in Rulemaking (R.) 02-06-001, SDG&E proposed on two occasions a default critical peak pricing (CPP) tariff for large C&I customers.[4] In both cases, the Commission rejected default CPP tariffs submitted by SDG&E, as well as proposals submitted by Pacific Gas & Electric (PG&E) and Southern California Edison (SCE).[5] As a result of Decision (D.) 06-05-038, SDG&E was ordered to file a default CPP and other suitable dynamic rates for customers with appropriate metering in Phase 2 of its next GRC application. In D.06-09-031, SDG&E was directed to file a default CPP proposal no later than January 31, 2007.[6]

The SPP experiment and subsequent statistical and econometric analysis resulted in the completion of two final reports. The first report issued in March 2005 quantified the demand response impacts from residential customers. The second report in June 2006

[3] R.02-06-001 conducted an experimental dynamic pricing pilot for residential and small & medium commercial customers (< 200 kW) in 2003-04. Large C&I customers (> 200 kW) have several voluntary demand response programs that were authorized in several Commission decisions and rulings; see D.03-03-036 (Interim Opinion in Phase 1 Adopting Pilot Program for Residential and Small Commercial Customers), D.04-01-012 (Opinion Approving 2004 Budget Request for the Statewide Pricing Pilot for Residential and Small Commercial Customers) and "ALJ's Ruling Approving 2004 Schedule and Plan for the Statewide Pricing Pilot Evaluation and Customer Research Activities and Establishing Process for Evaluation of Proposed 2005 Price Responsive Demand Programs" of 6/2/2004.

[4] See "Assigned Commissioner and ALJ's Ruling Directing the Filing of Rate Design Proposals for Large Customers" of 12/8/2004 and SDG&E's resulting Application, A.05-01-017 of 1/20/2005; D.05-04-053 was then issued resulting in updated testimony (SDG&E's CPP Phase II) filed on 8/1/2005.

[5] See D.05-04-053 and D.06-05-038.

[6] Ordering Paragraph 2 of D.06-09-031 states "SDG&E should include in its rate design proposals detailed CPP and other suitable dynamic pricing options for those customers equipped with appropriate metering for 2008".

quantified the demand response impacts for small and medium C&I customers.[7] The SPP reports' major finding showed that residential demand response impacts due to changes in electric prices during critical peak periods led to statistically significant reductions in demand for energy during these event or critical peak price periods. This finding resulted in the Commission directing the State's three electric investor-owned-utilities (IOUs) to file applications proposing AMI deployment plans.[8]

Subsequently, SDG&E filed an application for full deployment of AMI by year-end 2010.[9] Explicitly described in SDG&E's application, A.05-03-015, are illustrative demand response rates or programs for all customer classes. Demand response benefits for SDG&E are 45% of the total benefits in SDG&E's AMI filed business case. The other 55% of the benefits are operational benefits from automating meter reading activities and from greater efficiencies gained from timely access to customer end-point energy usage data. During the AMI proceeding, SDG&E committed to propose in SDG&E's Phase 2 GRC filing, specific time differentiated rates (or dynamic pricing) that were consistent with the illustrative rates assumed in SDG&E's AMI demand response impact forecast.[10]

Consistent with the customer classes identified in Table EF 9-1, the following Tables EF 9-2 and EF 9-3 shows the demand response impacts for year 2011 as result of the proposed TDRs presented in this application and (the first full summer after AMI

[7] See "Impact Evaluation of the California Statewide Pricing Pilot", prepared by Charles River Associates of March 16, 2005 and "California's Statewide Pricing Pilot: Commercial & Industrial Analysis Update" prepared by Charles River Associates of June 28, 2006.
[8] See "ALJ and Assigned Commissioner's Ruling Adopting a Business Case Analysis Framework for Advanced Metering Infrastructure" issued 7/21/2004.
[9] Full deployment of AMI means for all SDG&E electric customers throughout its service territory, including gas meters, AMI network communications and supporting computer and data management systems.
[10] See A.05-03-015, Chapter 14, p. RWH-2, lines 20-23 and AMI Hearing Transcipt of 9/28/2006, p. 482, lines 10-15 and p. 489, lines 21-24.

deployment) the impact results of the illustrative demand response rates/programs assumed in SDG&E's AMI application, A.05-03-015.

Table EF 9-2

Demand Response Impacts and Benefits

Present Value of Demand Response Benefits
(Millions of 2006 $)

Customer Segment	Capacity	Energy	Total	2011 MW
Residential	163.1	10.9	174.0	160
Small C&I (<20 kW)	15.5	1.1	16.6	9
Medium C&I (20- 200 kW)	78.9	2.5	81.5	69
Large C&I (> 200 kW)	75.7	2.3	78.0	64
Total	333.3	10.9	344.2	302

Table EF 9-3

AMI Application (A.) 05-03-015 Illustrative Demand Response Impacts

Table SSG 6-4
Demand Response Impacts in 2011
(First Year After Full Meter Deployment)

	MW Forecast		MW Reductions		Benefits $ Millions (Nominal)			
Customer Segment	MW	%	MW	%	Capacity	Energy	Total	%
Residential	1258	43	105	48	10.8	0.9	11.7	49
Small C&I (<20 kW)	445	15	8	4	0.8	0.1	0.9	4
Medium C&I (20-200 kW)	674	23	53	24	5.5	0.1	5.6	24
Large C&I (>200 kW)	520	18	53	24	5.4	0.1	5.6	23
All Classes (50th Percentile)	2897	100	219	100	22.5	1.3	23.7	100

Therefore, SDG&E's AMI benefits are predicated on the Commission authorizing time differentiated rates proposed in this filing that would be effective for summer 2008.

III. STRUCTURALLY ADVANTAGED AND DISADVANTAGED CUSTOMERS

A. Rate Design and Structurally Advantaged Customers

All other things remaining equal, a change in rate design from one rate structure to another (new) rate structure will mean that some customers will experience reduced bills with no change in their usage level or pattern. These customers are often classified as the group of structurally advantaged customers. Similarly, customers who experienced higher bills without any change in their energy usage level or pattern of use are classified as structurally disadvantaged customers. Regardless of the change in rates (which often results from changes in cost allocation methodologies), groups of structurally advantaged and disadvantaged customers are unavoidable. The objective of a "fair" change in rates is to *minimize*, rather than to avoid altogether, the emergence of structurally advantaged and disadvantaged customers.

B. CPP Rates and Large and Medium C&I Customers[11]

Default CPP rates for C&I customers with demand of at least 20 kW are explained in witness Mr. Magill's testimony (Chapter 10) and the specific triggers for CPP events and the defined CPP period explained in Mr. Jack's testimony (Chapter 12). The extent to which CPP customers are structurally advantaged or disadvantaged depends upon the customers load profile on CPP and non-CPP days and the rate differentials

[11] Medium C&I customers are defined to demand in the 20-200 kW range. Large C&I are customers with demand with least 200 kW.

between the CPP tariff and their otherwise applicable rate. The price of energy during CPP events will higher during the on-peak hours than the non-CPP event day on-peak price. Because of the high price during CPP hours, the price of energy will be lower for peak, semi-peak and off-peak hours under the CPP tariff than the otherwise applicable three-period TOU rate. The structurally disadvantaged customer can minimize the bill impact by shifting or reducing load during the CPP event hours. In addition, as discussed in Messrs. Magill and Velasquez's (Chapter 11) testimonies, the C&I customer has array of options, including selecting the level of the capacity reservation charge (CRC) in conjunction with their default CPP rate, three-period TOU rate, and other demand response and emergency interruptible rate programs. These additional rate and program options offer the customer choices to better match their load and operating characteristics and provide demand response while alleviating the degree that a customer would be structurally disadvantaged if only the CPP rate was available.

C. PTR and Customer Reference Levels (CRL) for Residential and Small Commercial Customers[12]

The extent to which a specific residential or small commercial customer is structurally advantaged or disadvantaged depends on their specific load characteristics the customer reference level (CRL) that is established. Witness Ms. Willoughby discusses the analysis and rationale for setting the CRLs in her testimony (Chapter13). The CRLs are established after analysis of customer load research data.

[12] Small commercial customers are defined with demands less 20 kW.

IV. SDG&E TIME DIFFERENTIATED RATE PROPOSALS

A. Residential Time Differentiated Rates: Otherwise Applicable Tiered Rate and Peak Time Rebate (PTR)

SDG&E proposed a peak time rebate (PTR) rate in A.05-03-015. In A.05-03-015, witness Mr. Gaines in Exhibit 25, Chapter 5 of SDG&E's testimony describes the PTR in its entirety. In summary, the PTR offers a rebate for residential customers that show energy usage below a customer specific baseline level during PTR event hours. Specifically, the rebates are provided on a cent per kilowatt hour (kWh) for each kWh below the established customer specific baseline for that hour. The baseline is established through historical usage and adjusted for the specific temperature forecasted for that event day.

The customer has the opportunity for a lower bill through the PTR, but would otherwise be billed via their applicable tiered rate. In other words, the residential customer can only be rewarded as a result of the PTR and can have a "no higher" bill than the bill under their otherwise applicable tariff tiered rates. Witness Mr. Gaines in Chapter 5 of A.05-03-015 describes SDG&E specific PTR proposal, including the specific initial PTR credit per kWh and the PTR baseline methodology.[13] The resulting demand response impacts were discussed in SDG&E witness Dr. George in Chapter 6 (Exhibit 26 E) of A.05-03-015.

B. Small Commercial Customers (<20 kW): Time of Use (TOU) and Peak Time Rebate

SDG&E small commercial customers have demand of less than 20 kW. Approximately, 112,000 accounts (meters) are on the current Schedule A rate, a flat rate

[13] See A.05-03-015, Ex. 25, Ch. 5, p. MFG-15, line 1 – p. MFG-16, line 24.

with a seasonal (summer and winter) variation component. SDG&E witness Mr. Gaines, Chapter 5[14] in A.05-03-015 proposes that all current Schedule A customers automatically convert to a three (3) period time of use (TOU) rate with a demand charge. The TOU rate will have a seasonal summer and winter component. These small commercial customers will also have a PTR credit similar to SDG&E's residential customers. Thus, a SDG&E small commercial customer will receive a lower electric bill if the customer can reduce usage below their customer specific baseline level during a PTR event hour. The PTR credit will be paid on cent per kWh reduction below the established customer reference level. Small commercial customers will also be able to select optional demand response or interruptible program rates, e.g., default CPP, etc.

The small commercial customers will transition to the AS-TOU rate no sooner than 90 days after the installation of the AMI meter and communications. AMI meter deployment is scheduled to begin no sooner than mid-2008. Small commercial customer education on the new AS-TOU rate and the PTR credit will begin in late 2007. Customers will be provided day-ahead notification of PTR events in a similar fashion as discussed in witness Mr. Velasquez's testimony regarding CPP event notification. Since PTR events may not necessarily coincide with CPP events, PTR event days will often include a combination of electronic notification and mass media public service announcements.[15]

C. Medium C&I Customers (20-200 kW): Default CPP

Currently, all SDG&E C&I customers with demand of at least 20 kW are subject to a three period TOU rate. Approximately, 20,000 C&I customers default to the AL-

[14] See A.05-03-015, Ex. 25, Ch. 5, p. MFG-17, lines 6-7.
[15] CPP events are limited to maximum of 18 days. PTR event have no maximum limit because the reductions are voluntary incentive based.

TOU rate. Most of these customers can choose optional demand response rates or interruptible programs. SDG&E plans to deploy AMI technology with these customers beginning in mid-2008 through 2010. In this Application, SDG&E witnesses Messrs. Magill and Velasquez propose that medium C&I customers be converted to the default CPP rate similar to that of large C&I customers.[16] As these medium C&I customers are converted to AMI technology, these customers will default to a CPP rate with the first twelve months subject to bill protection relative to their otherwise applicable rate. These medium C&I customers will continue to have the option to choose various applicable demand response rates or interruptible programs. Similar to the large C&I customers, a capacity reservation charge (CRC) option will also be available to the medium C&I customers. The CRC will allow customers to pay for a maximum demand capacity. Any usage above the customer's purchased capacity will be subject to the default CPP rate.

D. Large C&I Customers ($\geq$ 200 kW): Default CPP

As described in witness Mr. Fong's testimony[17] in SDG&E's AMI application, SDG&E's large C&I customers will be converted from their current interval metering technology with telephony communications to new AMI solid state interval meters with AMI communications. Because of their current capabilities, albeit limited in terms of near real-time communications, these large C&I customers will be subject to a default CPP rate beginning in 2008. The customers' first 12 months on the default CPP rate will be subject to bill protection relative their current otherwise applicable rate. After the first 12 month period, these customers will then be able to choose other available optional demand response and interruptible programs as defined in SDG&E tariffs. In addition,

[16] See A.05-03-015, Ex. 25, Ch. 5, p. MFG-17, lines 7-16.
[17] See A.05-03-015, Ex. 22, Ch. 2, p. EF-3, Ex. 38, Ch.17, p. EF-9

these large C&I customers will be able to pay for maximum capacity reservation charge. Any usage that is above their CRC demand will be subject to the default CPP rate (similar to the medium C&I customers). After 2010, all medium and large C&I customers will be on equal footing, i.e., a default CPP rate and same optional rates and or programs. Witnesses Messrs. Magill and Velasquez, Chapters 10 and 11, respectively describe the specific default CPP, CRC and optional demand response rates[18] and interruptible programs that are proposed or will continue to be available for SDG&E C&I customers.

E. Agricultural Customers

Agricultural or water pumping customers covered under the current PA-T-1 and PA rate schedules will be transition to the default CPP rate that is applicable to medium and large C&I customers. These customers will be billed on the default CPP rate no sooner than 90 days after the installation of the AMI meter. As described in witnesses Mr. Magill and Mr. Velasquez's testimonies bill protection and other rate and demand response program options available to these will be the same as those that are offered to medium and large C&I customers.

F. Street Lighting Customers

SDG&E time differentiated rate proposals will not impact the rate structure with street lighting customers because typical street light usage will occur during off-peak hours.

[18] See A.05-03-015, Ex. 25, Ch. 5, p. MFG-17, lines 7-16.

V. CONCLUSION

SDG&E is proposing time differentiated rates that are consistent and supportive of SDG&E's AMI application that is pending before the Commission. Per D.06-09-031, SDG&E is presenting a proposal for a default CPP rate and other suitable dynamic rates.

This concludes my prepared direct testimony.

VI. WITNESS QUALIFICATIONS

Mr. Fong is currently the Director of Customer Services Strategies for San Diego Gas & Electric (SDG&E). He is responsible for directing, managing and planning various customer services projects and analyses that pertain to longer-term, integrated and comprehensive strategies for customer services. Prior to assuming his current position in January 2007, Mr. Fong was Director of Customer Operations from 2005-07, Director of AMI Regulatory Policy & Strategy from 2004-05, Director of Measurement & Meter Reading from 2002-04, Director of Customer Services Solutions from 2000-02, and Director of Revenue Cycle Services for from 1998-2000. Mr. Fong has directed and managed measurement, meter reading, billing, call center, branch office, credit and collections, customer services staff, direct access services and other customer services operations at SDG&E.

Prior to joining SDG&E in 1998, Mr. Fong held various director level management positions with the Southern California Gas Company in Human Resources, Organizational Development, Customer Contact, Customer Services Operations Staff, Information Technology, Operations Research and Planning.

Mr. Fong has testified before the California Public Utilities Commission on numerous occasions covering a variety of topics ranging from cost of service, measurement and meter reading to billing systems implementation.

Mr. Fong is a graduate of University of California, San Diego with undergraduate and graduate degrees in Economics.