

Application of San Diego Gas & Electric
Company (U-902-M) for Approval of
Demand Response Programs and Budgets
for the Years 2012 through 2014.

Application 11-03-002

AMENDMENT TO

CHAPTER III

PREPARED DIRECT TESTIMONY OF

GEORGE KATSUFRAKIS

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

March 25, 2011

TABLE OF CONTENTS

1		
2	I.	PURPOSE 1
3	II.	BACKGROUND 1
4	1.	2009 - 2011 Demand Response Programs (D09-08-027) 4
5	2.	New Demand Response Programs 4
6	III.	DEMAND RESPONSE PROGRAM DESIGN CONSIDERATIONS..... 5
7	IV.	DEMAND RESPONSE PROGRAM PORTFOLIO 15
8	A.	Introduction..... 15
9	B.	Demand Response Programs 16
10	i.	Emergency Programs 16
11	1.	Emergency DR Programs Funded within this Application 16
12	2.	Emergency DR Programs Not Funded within this Application 19
13	3.	Emergency DR Programs SDG&E Proposes Eliminating 19
14	ii.	Price Responsive Programs 22
15	1.	Price Responsive DR Programs Funded within this Application 22
16	2.	Price Responsive DR Programs Partially Funded within this Application 27
17	3.	Price Responsive DR Programs Not Funded within this Application 33
18	C.	Enabling Programs and Pilots 43
19	1.	Enabling Programs Funded within this Application 43
20		<i>Technical Assistance/Technology Incentives (TA/TI)</i> 43
21		<i>Technical Assistance (TA)</i> 44
22		Proposed Changes to the TA Program 46
23		<i>Technology Incentive (TI) Program</i> 46
24		Proposed Technology Incentives CPP Premium Incentive Mechanism 48
25		Proposed Technology Incentives CPP Day-Of Incentive Mechanism 49
26		Proposed Changes to the TI Program 49
27		<i>Emerging Technology</i> 50
28	2.	Pilots Funded within this Application 55
29		<i>Locational Demand Response (LDR) Program</i> 55
30		<i>New Construction Demand Response Pilot (NCDRP)</i> 57
31	D.	Marketing and Outreach 60

1
2
3
4
5
6
7
8
9
10
11
12

Customer Education, Awareness and Outreach (CEAO)60

Demand Response Education, Awareness and Outreach.....60

Flex Alert Network and Engage 360 63

 Background.....63

 General Awareness 64

 Program Proposal 65

 Budget to Implement Program 65

E. Non DR Programs Funded Within This Application 67

Permanent Load Shifting (PLS).....67

V. QUALIFICATIONS 69

1 **CHAPTER III**

2 **PREPARED DIRECT TESTIMONY**

3 **OF GEORGE KATSUFRAKIS**

4 **I. PURPOSE**

5 The purpose of my testimony is to describe the portfolio of demand response (“DR”) programs and associated budgets that SDG&E proposes to offer to its customers during the three-year program cycle of 2012-2014. This testimony presents SDG&E’s proposed programs and budgets, explains SDG&E’s program development process, its plan on how to market and implement these programs, and how the proposed programs make up a key component of SDG&E’s integrated demand side management portfolio.

11 **Summary of Estimated Demand Response Programs Load Impacts**

12 The following table summarizes the estimated load impacts (in megawatts) SDG&E anticipates being able to achieve through its proposed DR programs portfolio:

	<u>2012</u>	<u>2013</u>	<u>2014</u>
Total MW	163 MW	207 MW	220 MW

14 The load impacts are presented herein for summary purposes. The discussion surrounding the development of the load impacts, as well as the supporting materials underlying the load impacts can be found in Chapter V, Section IV of Leslie Willoughby/Kathryn Smith’s testimony.

17 **II. BACKGROUND**

18 *Demand Response Programs History*

19 SDG&E has been developing and offering an array of DR programs to its customers since 2001. During this time period, the scope of these programs has changed as more

1 experience is gained, and the concept of DR as a vital and integral element of resource planning
2 and energy management has become more fundamental and accepted. While perhaps not as
3 broad or as mature as the initiatives of SDG&E's Energy Efficiency ("EE") portfolio, DR is
4 nonetheless a critical component of SDG&E's Customer Programs' portfolio as well as an
5 essential element of its energy procurement and management strategy.

6 ***Significant Commission Decisions/Proceedings***

7 In 2001, the Commission issued a series of three decisions which directed SDG&E to
8 design and implement numerous DR programs; D.01-04-006, D.01-07-025 and D.01-06-009
9 ordered SDG&E to implement a number of programs of which several continue and are subject
10 to modifications in this filing including Base Interruptible Program (BIP), Optional Binding
11 Mandatory Curtailment Program (OBMC), an Air Conditioner Cycling (A/C Cycling) program,
12 and Rolling Blackout Reduction Program (RBRP) which utilizes customer's backup generation
13 capabilities to augment energy supplies. In addition to these programs Senate Bill (SB) No. 5
14 (1st Extra Session, 2001), also referred to as SBX1 5, required the utilities to implement the
15 Scheduled Load Reduction Program (SLRP) which is also addressed in this filing.

16 ***Rulemaking R.07-01-041***

17 On June 10, 2002, the Commission opened a new proceeding, R. 02-06-001, the
18 Advanced Metering, Demand Response and Dynamic Pricing Rulemaking, which continued and
19 expanded the development and evaluation of DR programs and related dynamic pricing
20 structures.

21 On November 18, 2005, the Commission issued D.05-11-009, which subsumed a number
22 of items from R. 02-06-001. D.05-11-009 noted that significant progress had been made in the
23 development of DR programs, and identified several key issues for further development. Those

1 issues included, among others, the development of protocols for assessing the load impacts and
2 cost-effectiveness of DR programs. Subsequently, the Commission opened a new Rulemaking,
3 R. 07-01-041, on January 25, 2007, establishing a forum in which these, and an expanded slate
4 of issues, including the reassessment of the annual DR program targets and the integration of DR
5 programs into the California Independent System Operator's Market Redesign and Technology
6 Upgrade (MRTU) process, would be addressed.

7 The R.07-01-041 proceeding was divided into four phases; Phase 1 established
8 methodologies for determining Load Impacts and Cost Effectiveness, Phase 2 addressed Demand
9 Response goals, Phase 3 was initiated to determine the treatment and integration of emergency
10 triggered program into the CAISO wholesale market and Phase 4 is addressing issues associated
11 with Direct Participation in the CAISO wholesale market.

12 Phase 1 Load Impact and Cost Effective protocols were initially set forth in D.08-04-050
13 and subsequently modified in D.10-04-006 and finalized in D.10-12-024. SDG&E's calculations
14 of Load Impacts and Cost Effectiveness in this Application are made in accordance with these
15 decisions and are provided in Leslie Willoughby/Kathryn Smith's testimony in Chapter V and
16 Kevin McKinley's testimony in Chapter IV respectively. Phase 3 of the proceeding concluded
17 with D.10-06-034 which resulted in a settlement agreement which among other things
18 established caps on emergency triggered programs and resulted in the development of a new
19 CAISO product, Reliability Demand Response Program which informs changes to SDG&E's
20 emergency triggered programs elsewhere in this filing. Phase 4 has yet to be concluded, and
21 leaves open some issues that are associated with integrating with the CAISO markets which are
22 addressed both in this filing and the SDG&E report on Wholesale Market Integration that was
23 filed with the Commission on January 31, 2011.

1 **1. 2009 - 2011 Demand Response Programs (D09-08-027)**

2 On August 24 2009 the Commission issued D.09-08-027, adopting A.08-06-002,
3 SDG&E’s Application proposing its 2009-2011 DR programs and budgets. In addition to
4 adoption of the 2009–2011 DR programs and budgets, D09-08-027 also established various
5 requirements for the current filing in Ordering Paragraph 41. On August 27, 2010 an ALJ
6 guidance ruling clarified the requirements set forth in D09-08-027 and other Commission orders
7 that impact and informs the current filing including D.10-06-036 which updates the availability
8 requirements for Demand Response programs to be eligible to receive maximum Resource
9 Adequacy credits.¹

10 **2. New Demand Response Programs**

11 While the Commission has not specifically directed SDG&E to undertake any new DR
12 programs in the 2012 – 2014 program cycle, the current application requests funding for several
13 new programs and a pilot in addition to the continuation of existing programs. The proposed
14 new programs are designed to make DR available to a broader population, expand the use of
15 enabling technologies and provide a deeper pool of resources to fulfill SDG&E’s portfolio needs.
16 Each program is designed to comply with the compendium of Commissions directives on
17 Demand Response while furthering the goal of Integrated Demand Side Management. The DR
18 programs and the methods by which they will meet these objectives are discussed in more detail
19 in subsequent sections of this testimony.

20

¹ The protocols for amending Resource Adequacy rules for DR are ongoing in R.09-10-032.

1 **III. DEMAND RESPONSE PROGRAM DESIGN CONSIDERATIONS**

2 In developing its portfolio of proposed DR programs, SDG&E has undertaken a
3 comprehensive evaluation of its customer base, stakeholders and existing programs. In support
4 of and in addition to the guidance provided in R.07-01-041, SDG&E has developed overarching
5 strategies that include developing price responsive programs, maintaining a level playing field
6 for Aggregators, encouraging Integrated Demand Side Management (IDSMS) solutions for
7 customers and increasing stakeholder engagement. A detailed discussion of these guiding
8 principles can be found in Chapter I Section III of Mark Gaines’ testimony.

9 **Strategies**

10 Using the CPUC issued Guidance Document as reference, and the principles outlined in
11 Chapter I of Mark Gaines’ testimony, SDG&E’s design effort included the development of key
12 strategies and the inclusion of a stakeholder feedback process. Critical items identified during
13 this process for incorporation into program design were:

- 14 • The ability to attract and strengthen relationships with third party Aggregators to support
15 the use of the most cost effective solution, providing access to all Aggregators as the market and
16 technologies continue to develop.
- 17 • Support the development and implementation of enabling technologies to provide reliable
18 demand response.
- 19 • Promote Auto DR:

20 SDG&E believes that enabling AutoDR will provide additional and more reliable
21 demand response and create a technology solution to provide long-term reductions consistent
22 with T&D cost avoidance. Further discussion is included in Chapter IV Section III of Kevin
23 McKinley’s testimony on D Factor.

1 • Provide demand response programs that are simple and easy for the customer to
2 understand and participate in.

- 3 • Enable DR programs for integration into the CAISO Wholesale Market.
 - 4 ○ Design programs to be as price responsive as possible.
 - 5 ○ Use pricing to support the development of DR resources for the highest value
6 products.

7 This process engaged internal and external stakeholders, including advisory meetings
8 with customers, Demand Response Providers (DRPs), Community Based Organizations and
9 other demand response stakeholders to get their thoughts on our existing programs as well as
10 their thoughts on the proposed changes SDG&E planned for the 2012-2014 program cycle.

11 These stakeholder meetings provided the opportunity to discuss our program strategies and
12 receive feedback that impacted the design and implementation of our proposed portfolio.

13 **Stakeholder Discussions**

14 Specific topics that were raised during these discussions included:

- 15 • The accuracy of the current 10 – in - 10 baseline adopted during the last program cycle.
- 16 • Ability to provide increased transparency for event trigger.
- 17 • TI capacity incentives for Aggregators for implementation of Auto-DR customers.
- 18 • Ability to provide a financial commitment long enough to support Aggregator investment
19 for technology driven programs.

20 Subsequent review and evaluation resulted in critical design changes proposed in this
21 application, which were also reviewed with stakeholders during a follow-up advisory meeting.

22 **Resulting Program Changes**

23 As a result, the following design changes are proposed within this application:

1 • SDG&E proposes to adjust its current baseline to a 10 - day average of aggregated
2 customer usage over the preceding 10 similar days with a 40% day-of adjustment. The analysis
3 and a discussion of different baselines are presented in Chapter V, Section VII of Leslie
4 Willoughby/Kathryn Smith’s testimony.

5 • SDG&E proposes a TI incentive mechanism for Aggregators that facilitate load
6 reduction from CPP-D customers with Auto-DR.

7 • SDG&E proposes to honor pricing for customers enrolled in the Capacity Bidding
8 and Technology Incentive’s CPP Premium Incentive mechanism programs through an
9 Aggregator for 3 years from contract signature.

10 • SDG&E proposes to eliminate Multiple Program Participation (MPP) so that
11 customers enrolled in BIP, CBP and DemandSMART™ will not also be eligible to participate in
12 CPP. The analysis and rationale for this decision can be found in Mark Gaines’ Testimony in
13 Chapter I, Section II.

14 **Strategic Program Design Changes**

15 **Changes in Programs to Support Wholesale Market Integration**

16 During the 2012-2014 Program Cycle SDG&E intends to transition critical programs for
17 integration into the CAISO markets and is proposing a number of modifications to current
18 programs to achieve this. SDG&E’s goal is to limit “customer facing” changes to the program
19 while supporting the integration on the wholesale level. SDG&E has targeted Capacity Bidding
20 Program for initial transition to the wholesale market in 2013, using lessons learned from
21 previous pilots (Participating Load Pilot and Demand Response Wholesale Market Pilot).

1 **Price Responsiveness**

2 With a goal to design programs to be as price responsive as possible, SDG&E in the
3 process of developing proxy price triggers for all Day-Ahead and Day-Of programs. For CBP,
4 in 2013, an event will be triggered when a bid into the wholesale market has been accepted and
5 awarded. Using data from current initiatives such as the Demand Response Wholesale Market
6 Pilot (DRWMP), SDG&E will refine its methodologies for establishing these price triggers
7 during 2011. Aggregators and other market participants will continue to be involved in
8 discussions to determine ways to provide price sensitive programs with transparent triggers.

9 **Multiple Program Participation**

10 As referenced above, the elimination of Multiple Program Participation was discussed
11 during the advisory meetings. SDG&E believes that one of the values resulting in offering MPP
12 is enabling a viable business model for Aggregators consistent with the strategy to attract and
13 strengthen those relationships to meet SDGE's day-of system needs. However after reviewing
14 the issues surrounding this effort, SDG&E believes that this can be accomplished without
15 introducing the confusion and complications associated with MPP.

16 **TI Program Incentive Modifications**

17 To meet the objectives of ensuring a viable business model for aggregators and meeting
18 day-of system needs, SDG&E proposes adding two components to its Technical Incentive (TI)
19 program: 1) A CPP Premium incentive mechanism that provides an incentive to Aggregators that
20 support CPP-D customers with their enabling technologies and 2) A CPP-D day-of energy
21 incentive mechanism for select CPP-D customers whose usage during an event is below a
22 reference level. A further discussion of these components can be found in Section IV as well as
23 in the TI Program Implementation Plan (PIP) in Appendix B.

1 **Market Development**

2 SDG&E proposes to use standard offer approaches such as those associated with the CBP
3 that pays all Aggregators the same amount for event driven load reduction to create healthy
4 competition and enable a successful market for all stakeholders.

5 **Small Customer Market Penetration**

6 In the 2012-2014 program cycle SDG&E will be transitioning smaller customers to the
7 CPP-D rate as well as looking to enroll them into DR programs. An issue raised in stakeholder
8 discussions, is the investment required to penetrate small customer segments. We recognize the
9 challenge that cost effectiveness presents to Aggregators as they take on this activity and, to
10 address this challenge, SDG&E proposes guaranteeing Aggregators a three year payment stream
11 for efforts in attracting new customers to the Capacity Bidding Program as well as the new CPP
12 Premium that is part of the Technical Incentive program. The development of this proposal was
13 discussed during advisory meetings. For example, if an Aggregator signed up a customer in
14 December of 2014, the last month of the program, they would be guaranteed a payment equal to
15 the 2014 program rate for three years. If, however, an Aggregator elects to move a customer to
16 another program the former rate will no longer be guaranteed, but the rate will be guaranteed if
17 SDG&E reduces the program payment schedule or eliminates the program altogether. This
18 payment structure would encourage Aggregators to work with smaller, less cost effective
19 customers enrolling them in a standard offer similar to the guaranty and encouragement
20 Aggregators have with a bilateral contract. This addition will provide Aggregators with enough
21 time to build substantial portfolios that are portable, and flexible to bid load directly into the
22 wholesale market without being contractual bound with the utility.

1 **Resource Adequacy**

2 Resource Adequacy brings substantial value to demand response cost effectiveness.
3 Designing programs that align with Resource Adequacy requirements is essential to ensure: 1)
4 grid operation has the resources when they will most likely be needed and 2) rate payers get
5 value from their investment in DR.

6 To contribute to the reliability of the state’s electrical grid, SDG&E acquires capacity to
7 meet peak load conditions and the amounts and characteristics of that capacity are aligned by the
8 state’s Resource Adequacy requirements. Demand Response programs bring substantial value to
9 the utility by reducing peak demand, allowing SDG&E to avoid acquiring added generation that
10 would sit idle except for the few hours it would be needed to meet peak load conditions.
11 SDG&E has designed its DR programs to align with the state’s Resource Adequacy requirements
12 to ensure rate payers get the significant value associated with reduced Resource Adequacy
13 requirements that come from the contribution of DR.

14 In Order D.10-06-036, the Commission changed the peak hours definition to 1 pm – 6 pm
15 for April through October and 4 pm - 9 pm for November through March. Given our mix of
16 available resources, SDG&E believes that there is negligible value to having additional resources
17 available from November to March, 4-9 pm, or April, 1-6 pm so we cannot justify paying for DR
18 resources to be available during these periods. Analysis of SDG&E historical data on peak loads
19 and loss of load expectation suggest the probability of a DR program being needed in the peak
20 hours during the months of November through April to meet peak load is close to zero. In
21 Chapter IV, Section III, the testimony of Kevin McKinley regarding the A factor more fully
22 explains the analysis. The DR template allocation of capacity value to months also confirms that
23 the value of capacity to meet peak loads is negligible during the period November to April.

1 With the need for DR concentrated in the period May through October, SDG&E
2 concluded continuing the current DR programs over May to October with full availability during
3 the hours of 1 pm to 6 pm would provide continuity with the past program structure without any
4 loss of capacity value. DR programs will provide SDG&E Resource Adequacy value when it is
5 needed – May to October.²

6 The Resource Adequacy Decision 10-06-036 also placed restrictions on generation
7 resources to receive Resource Adequacy value – that they be available at least four hours per day
8 for three consecutive days. While that requirement was not placed on DR programs, SDG&E
9 has altered its DR programs to meet that same requirement. All core SDG&E DR programs are
10 available for a minimum of four hours during the hours of 1pm – 6pm for three consecutive days.

11 Each of the DR programs has different program parameters which affect availability
12 including restrictions on the hours available per month, or the number of calls per month, or the
13 hours per call, but these restrictions provide customers with greater certainty. These program
14 differences do not affect their qualification for Resource Adequacy, but do affect the capacity
15 value of the specific DR program. These program parameters have been accounted for in
16 valuation process through the A factor as described in the testimony of Kevin McKinley, Chapter
17 IV, Section III.

18 **Exemplary Tariffs and Related Document Updates**

19 Below is a summary of the document changes requested by SDG&E. This is not a
20 complete list of program changes SDG&E is proposing, but is intended to list tariffs, rules and
21 contracts requiring Commission approval.

² The analysis of peak demand does not take into consideration transmission events that could occur in any month. The BIP program offers an option for DR customers who can provide load reductions throughout the year. The pricing of the BIP program has been changed to reflect the bulk of capacity occurring in the summer months.

- 1 • Critical Peak Pricing – Emergency (CPP-E)
 - 2 ○ SDG&E proposes eliminating the CPP-E rate and, therefore, the EECC-CPP-
 - 3 E tariff. A discussion of this can be found in Section IV.
- 4 • Base Interruptible Program
 - 5 ○ SDG&E proposes modifying the tariff’s flat monthly payment of \$7/kW/Mo
 - 6 for Option A to differentiated rate of \$12/kW/Mo for May through October
 - 7 and \$2/kW/Mo for November through April. SDG&E also proposes
 - 8 modifying the flat Excess Energy Usage Charge of \$4.50/kWh for Option A
 - 9 to a differentiated rate of \$7.80/kWh for May through October and \$1.20/kWh
 - 10 for November through April.
 - 11 ○ SDG&E proposes removing Option B from the tariff.
 - 12 ○ SDG&E proposes modifying the BIP tariff per D.09-08-027 to remove the
 - 13 backup generation provision from the BIP and add a clause prohibiting the use
 - 14 of backup generation to achieve load reduction.
 - 15 ○ In accordance with the ALJ Guidance Ruling, the following requirement will
 - 16 be added to the Base Interruptible Program Tariff, “In the absence of an actual
 - 17 event there will be at least one program test event called per year.”
- 18 • Scheduled Load Reduction Program (SLRP)
 - 19 ○ SDG&E proposes to modify Multiple Program Participation language in
 - 20 tariff; Added reference to Rule 41
- 21 • Optional Binding Mandatory Curtailment (OMBC)
 - 22 ○ SDG&E proposes eliminating the OBMC program and, therefore, the OBMC
 - 23 tariff. A discussion of this can be found in Section IV.

- 1 • Capacity Bidding Program (CBP)
 - 2 ○ SDG&E proposes modifying the tariff to increase CBP capacity incentives by
 - 3 10% and redistribute the monthly payment so that the \$/kW payment in
 - 4 critical months like August are increased and the \$/kW payment in shoulder
 - 5 months like May are reduced.
 - 6 ○ SDG&E proposes modifying the CBP tariff per D.09-08-027 to remove the
 - 7 backup generation provision from the CBP and add a clause prohibiting the
 - 8 use of backup generation to achieve load reduction
 - 9 ○ SDG&E proposes allowing Aggregators to sign a contract that provides
 - 10 guaranteed payments for three years.
 - 11 ○ In accordance with the ALJ Guidance Ruling, the following requirement will
 - 12 be added to the Capacity Bidding Program Tariff, “If an actual event is not
 - 13 initiated by late Summer, a test event will be called during the peak months of
 - 14 August or September.”
- 15 • TA/TI
 - 16 ○ SDG&E proposes allowing Aggregators to sign a contract that will allow
 - 17 them guaranteed payments from the CPP Premium Incentive for three years.
- 18 • Rule 41 MPP
 - 19 ○ SDG&E proposes removing CPP-E and OBMC from Rule 41.
 - 20 ○ SDG&E proposes modifying Rule 41 to remove the multiple program
 - 21 participation for CPP-D with CBP, BIP, SLRP, PLS and the Aggregator
 - 22 Managed Programs.

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- Attached to my testimony as Appendix C are exemplary DR program tariffs that would implement the various program changes listed above. To the extent that the currently effective tariffs set forth in Appendix C may change as a result of some other proceeding in the interim between the time this testimony is submitted and a final Commission decision is issued in this proceeding, the inclusion of the exemplary tariffs herein is not meant to supersede those changes.

1 **IV. DEMAND RESPONSE PROGRAM PORTFOLIO**

2 **A. Introduction**

3 The following discussion presents an overview of the various programs that make up the
4 DR programs component of SDG&E’s integrated portfolio of programs for 2012-2014. Each
5 program is briefly discussed in the sections that follow, with proposed changes to those programs
6 for 2012-2014 highlighted. Budgets supporting each proposed program are contained in Table
7 A-1 of Appendix A, while detailed Program Implementation Plans (PIPs), with program
8 descriptions, implementation plans and other significant details contained in Appendix B.

9 As described more fully below, SDG&E is proposing to implement a comprehensive
10 portfolio of integrated DR programs and budgets for the three-year 2012 – 2014 program cycle.
11 The proposed annual program budgets are summarized below, with further detail contained in
12 Table A-1 of Appendix A:

	<u>2012</u>	<u>2013</u>	<u>2014</u>
Program Budget (\$ million).	\$29,172	<u>\$20,700</u>\$20,907	<u>18,888</u>\$19,100

15 The budgets proposed herein are associated with the portfolio of demand response
16 programs discussed in subsequent sections of my testimony and set forth in Appendix A. Any
17 additional program budgets that are proposed and associated with other programs are discussed
18 separately within the testimony of other SDG&E witnesses in this proceeding, and are in
19 addition to the proposed budgets set forth in my testimony.

20 SDG&E proposes that the following programs be continued, or newly established, as
21 integral components of its 2012 – 2014 DR programs portfolio. Each proposed, continued or
22 new program is described in general terms in the following sections, and each is represented by a
23 detailed PIP contained in Appendix B. Additionally, SDG&E has included in the discussion
24 below information on those programs within its proposed DR programs portfolio that have been

1 adopted by the Commission in other proceedings, and which make up a portion of the overall
2 portfolio. Finally, Table A-2 of Appendix A contains a summary matrix which presents
3 summary information on each program, including a brief description and the proposed 2012 –
4 2014 program budget summary.

5 **B. Demand Response Programs**

6 **i. Emergency Programs**

7 **1. Emergency DR Programs Funded within this Application**

8 ***Base Interruptible Program (BIP)***

9 The Base Interruptible Program (BIP) is a statewide voluntary program that offers
10 participants a monthly capacity payment in the form of a bill credit in exchange for their
11 commitment to reduce their energy consumption to a pre-determined minimum level when called
12 on to do so with short notice during emergency situations. BIP imposes a significant penalty to
13 participating customers for non-performance during a program event. Customers with the
14 capability to reduce their demand by 15% with a minimum of 100 kW and who have an IDR
15 meter and telecommunications equipment installed are eligible to participate in BIP. Participants
16 may either be utility bundled or direct access customers.

17 Customers may enroll in BIP either directly through SDG&E, or as part of an aggregated
18 group through an approved third-party Aggregator/Provider. BIP is designed for customers with
19 a firm load reduction plan in place and who can reduce load with certainty when requested.
20 Events can be triggered by forecast or notification of one or more of the following conditions: a
21 CAISO Stage 1 emergency is imminent, a CAISO Stage 2 emergency, a CAISO call for
22 interruptible load or at SDG&E's discretion for various conditions including system
23 contingencies.

1 Currently BIP has 19 customers enrolled in Option A (30 minute notice) and one
2 customer enrolled in Option B (three hour notice). Enrollment is at 8.2 MW and during its 2010
3 test event delivered approximately 4.5 MW of load reduction. SDG&E proposes that the
4 existing BIP program be continued through the 2012 – 2014 program cycle. SDG&E agrees
5 with the Commission’s comments in D.06-11-049 that “...BIP was created as a statewide
6 program, in part so that it attracts customers in multiple service territories. We believe the
7 program should be continued on a statewide basis.”³

8 SDG&E proposes to continue BIP during the 2012 – 2014 program cycle as its primary
9 emergency program, with limited changes to the existing program:

10 • SDG&E proposes modifying BIP to conform to CAISO’s Reliability Demand
11 Response Product (RDRP). As such, the three hour response time that is allowed in Option B
12 does not align with the 40 minute RDRP curtailment requirement and, therefore, SDG&E
13 proposes eliminating this option of the BIP product. Removing BIP Option B will have a very
14 small impact on customers as it has not been a popular customer preference and only one
15 customer on this rate option.

16 • Because of the correlation between system overloads and hot weather, SDG&E
17 proposes a summer month rate premium to reflect the increased likelihood of an event as well as
18 the higher value of load in the warmer months. Winter rates have been reduced accordingly to
19 maintain the 2009-2011 \$/kW-yr payment structure.

20 • In accordance with CPUC D.10-06-034 that adopted a settlement agreement
21 between the Commission, CAISO, the other utilities, and intervening parties, SDG&E has
22 capped participation in BIP at 20 MW. BIP is SDG&E’s only emergency-triggered program,
23 and by enforcing the 20 MW cap, SDG&E will prevent over-enrollment in emergency triggered

³ D.06-11-049, mimeo, at page 31.

1 programs. As such, SDG&E will avoid inappropriate ratepayer subsidies and the need for a
2 utility specific mechanism to address excess enrollment.

- 3 • SDG&E proposes eliminating Multiple Program Participation (MPP) for BIP.

4 The analysis and rationale for this decision can be found in Chapter I, Section II of Mark Gaines’
5 testimony, but in short, SDG&E feels that allowing customers to participate in BIP and CPP
6 creates the risk of over estimating the resources available to address system upsets. Currently
7 there are four BIP customers (six accounts) that are also on CPP. This change would require that
8 these customers either choose CPP and therefore cannot participate in BIP or stay on BIP and
9 select another tariff.

- 10 • In accordance with Commission’s guidance in D.09-08-027, SDG&E proposes
11 modifying the BIP tariff to remove the backup generation provision and to add a clause
12 prohibiting the use of backup generation to achieve load reduction.

13 SDG&E’s proposed budget for the BIP program is approximately **\$4.2 million** for the
14 2012- 2014 program cycle, as set forth in Appendix A.

15 The continuation of BIP is expected to provide a valuable contribution to the availability
16 of demand response resources to SDG&E, and to provide ongoing options to customers wishing
17 to participate in demand response. SDG&E’s load impact analysis estimates a load reduction
18 potential from BIP of **16 MW** in 2014, well below the 2014 cap adopted in D.10-06-034.

19 Program costs have increased for BIP in this program cycle from the 2009 – 2011
20 program cycle by about three million dollars. This increase is a result of a forecasted load
21 reduction increase of 10 MW. An exemplary tariff for the BIP program that reflects the
22 proposed changes described above can be found in Appendix C.

1 **2. Emergency DR Programs Not Funded within this Application**

2 ***Scheduled Load Reduction Program (SLRP)***

3 The SLRP was initially established pursuant to the provisions of California SB5X, dated
4 January 17, 2001. Customers electing to participate in SLRP are required to reduce their electric
5 load during specific time periods of their choosing, and are paid an incentive for that reduction,
6 which must be a minimum reduction of 100 kW or 15% of total load. SDG&E has included
7 SLRP in its demand response program through the current, 2009 – 2011 program cycle, but has
8 not received any customer enrollments. SDG&E proposed to eliminate SLRP as part of its 2006
9 – 2008 program portfolio, in A.05-06-017, but because the Commission determined that the
10 program is Legislatively-mandated, that proposal was denied by D.06-03-024. SDG&E has
11 continued to offer the program and will continue the program through the 2012 – 2014 program
12 cycle, and will maintain the existing program collateral and educational material, but will
13 minimize the program expenditures due to the lack of customer interest in the program.

14 SDG&E has no customers on SLRP, has not allocated any budget for the SLRP program
15 and is not anticipating any customers will enroll in this program in the 2012 – 2014 program
16 cycle.

17 **3. Emergency DR Programs SDG&E Proposes Eliminating**

18 ***Optional Binding Mandatory Curtailment (OBMC)***

19 The Optional Binding Mandatory Curtailment (OBMC) Program is a voluntary program
20 whereby participants are exempted from rolling blackouts/rotating outages in exchange for
21 reducing power on their circuit upon 15-minute notice from SDG&E during an electricity
22 shortage. Customers who can commit to reducing up to 15% of the total circuit load during an
23 OBMC event are eligible to participate.

1 Following the energy crisis the Commission authorized OBMC as a statewide program
2 through D.01-04-006. OBMC was expected to have wide appeal, as it exempts participating
3 businesses from rolling blackouts and/or rotating outages. Participation in OBMC ensures that
4 businesses on an impacted electric circuit will not face power outages, affording those customers
5 the opportunity to eliminate such inconveniences as work interruptions, increased costs, etc.

6 Following its establishment, SDG&E initially had two large manufacturers enroll in
7 OBMC in 2001, but as the apparent risk of blackouts diminished, those customers dropped from
8 the program in 2002 and SDG&E's OBMC program has not had any customers enroll since.
9 Because the program calls for load reductions across the entire circuit, the feedback SDG&E
10 received from these customers was that they were concerned that other customers on their circuit
11 would not also commit to a load reduction sufficient to ensure a minimum reduction of 15%. As
12 a result, SDG&E proposes that the OBMC Program be terminated effective January 1, 2012.

13 ***Critical Peak Pricing - Emergency (CPP-E)***

14 CPP-E is an existing voluntary rate option under which participating customers are called
15 upon with very short advance notice (30 minutes) on a day-of basis of the need for an immediate
16 load reduction. Participating customers typically have previously identified the actions they can
17 take to reduce load on such a short-notice basis, and can therefore provide a valuable resource to
18 SDG&E in times when near-immediate load reductions are necessary in response to system
19 emergency or other extreme conditions. As a result of the Settlement Agreement adopted by
20 D.08-02-034, and the establishment of CPP-D, the CPP-E program was authorized to be
21 continued, and was a component of the 2009 – 2011 DR program cycle.

22 CPP-E has been available on an optional basis to customers with a minimum demand of
23 20 kW who can respond rapidly to the need for load reductions, and who wish to opt-out of the

1 CPP-D program. CPP-E was designed for customers who have the ability to modify their
2 business operations and reduce load with extremely short notice. SDG&E would activate a CPP-
3 E event primarily during a system reliability emergency, as determined by SDG&E. This could
4 include, but is not necessarily limited to a CAISO Stage 1 or Stage 2 alert, or when local grid
5 operators determine that firm load reliability is threatened. CPP-E provides for a maximum of
6 80 event hours per year, with events limited to no more than six hours per day, four days per
7 week and 40 hours per month.

8 Although the short-notice product has value to SDG&E, this rate has had limited interest
9 by customers and is duplicative with other DR offerings. As a result, SDG&E proposes that the
10 CPP-E Program be removed as a customer option for the 2012 – 2014 program cycle and the rate
11 be terminated effective January 1, 2012. SDG&E will work with the six customers that are
12 enrolled in this program to transition them to another demand response offering.

13 Although CPP-E is a rate-based program, and was developed in the context of SDG&E's
14 rate design proposals in its 2008 General Rate Case, SDG&E requests that the rate be removed
15 during this proceeding rather than in future Rate Design Window, General Rate Case or similar
16 proceedings.

17

1 **ii. Price Responsive Programs**

2 **1. Price Responsive DR Programs Funded within this Application**

3 *Capacity Bidding Program (CBP)*

4 1. Description

5 SDG&E's CBP program has increased in enrollment since its start in June 2007.

6 SDG&E's CBP has seen steady growth of approximately 140 accounts per year and continued
7 interest from third-party providers. SDG&E anticipates continued growth in the program during
8 the 2012- 2014 program cycle.

9 CBP is a supply-side bidding program, where customers make a monthly commitment to
10 provide load reduction when called upon during program events. Participating customers receive
11 a monthly capacity incentive payment for their committed load reductions, as well as an energy
12 incentive payment based on the actual amount of energy reduced during the event. Participating
13 customers are also subject to performance penalties, should they fail or fall short of delivering
14 the committed load reduction when called upon to do so.

15 2. Products

16 The CBP program has both day-ahead and a day-of program options to provide
17 customers the flexibility of designating load reduction that requires longer event notification
18 through the day-ahead products and designation load reductions that can be achieved with
19 shorter notification through the day-of event products. Customers are permitted to designate
20 separate day-ahead and day-of capacity nominations, but cannot designate the same nominated
21 load under both options. SDG&E believes that by providing both options customers are able to
22 better identify load reductions that they can provide under each scenario, and thereby create a
23 greater opportunity to realize the maximum load reduction potential. Further, by offering day-

1 ahead and day-of program notice options, CBP provides SDG&E with a valuable, multi-faceted
2 resource for day-ahead planning and for short, same-day notice in response to temporary, same-
3 day, short notice emergency conditions that may not be known a day in advance.

4 Within the day-ahead and day-of options, CBP offers participating customers three
5 product types within each option. These different product types reflect varying load reduction
6 time durations, identifying both minimum and maximum load reduction event duration. As with
7 the day-ahead and day-of alternatives, the CBP program product types are intended to provide
8 participating customers with the flexibility of selecting from among a mix of alternatives in
9 identifying the load reduction time frames that best suit their operational needs and other
10 parameters. By providing such options, SDG&E believes that customers are better able to align
11 their load reduction capability with their ability and flexibility to deliver load reductions when
12 needed.

13 3. Eligibility

14 Enrollment is open to all non-residential customers with demands above 20 kW,
15 including bundled utility service customers, Direct Access (DA) customers, and Community
16 Choice Aggregation (CCA) customers.

17 Per the Commission’s guidance, *“In at least two previous decisions, the Commission has*
18 *stated it does not consider backup generation to be a type of demand response, and has rejected*
19 *requests to use demand response funds to support backup generation.”*⁴ SDG&E proposes
20 modifying the CBP tariff to remove the backup generation provision from the CBP and to add a
21 clause prohibiting the use of backup generation to achieve load reduction.
22

⁴ D.09-08-027.

1 SDG&E proposes eliminating Multiple Program Participation (MPP) for CBP. The
2 analysis and rationale for this decision can be found in Chapter I, Section II of Mark Gaines
3 testimony, but in short SDG&E feels that allowing customers to participate in CBP and CPP over
4 estimates the resources available to address system upsets and will result in duplicative payments
5 for the same DR capacity. Currently there are 23 CBP customers (35 accounts) that are also on
6 CPP. This change would require that these customers either choose CPP and therefore cannot
7 participate in CBP or stay on CBP and select another tariffed rate.

8 4. Incentive Payments

9 CBP operates during the months of May through October. The capacity payments
10 specified each month are intended to reflect the varying, month-to-month, energy market prices,
11 having greater value during the peak summer months of July through September, and lesser
12 value during the shoulder months of May and October. In the 2012 – 2014 program cycle
13 SDG&E proposes increasing the annual incentive payment by 10% for the two to six hour
14 products and the four to eight hour products in order to better reflect the benefit of the avoided
15 capacity cost for DR programs that are capable of calling at least five hour events. The incentives
16 for the one to four hour products were not increased because they do not meet the five hour
17 criteria mentioned above. SDG&E also proposes adjusting the monthly payments to more
18 closely reflect the seasonal adjustment to the energy value. SDG&E conducted an analysis using
19 CAISO's Reliability Capacity Services Tariff from June 1, 2006 and the top 250 highest priced
20 hours from 2006-2008 to shape the monthly incentive payments for CBP. The analysis
21 suggested that the incentives for key months, like July and August, should be increased while the
22 incentives for shoulder months should be further reduced. The values shown in the CBP tariff in
23 Appendix C reflect the results of that analysis.

1 5. Event Trigger

2 The program event trigger is based on an equivalent energy market heat rate of 15,000
3 Btu/kWh, intending to fit CBP into an exemplary typical day's energy resource supply curve.
4 Functioning in much the same fashion as a generation supply, the intent of this heat rate trigger is
5 that a CBP event would be triggered whenever the energy market would dictate that an
6 equivalent 15,000 Btu/kWh resource would be acquired. In the 2012 – 2014 program cycle,
7 SDG&E proposes bidding the CBP day-ahead products into the wholesale market. Instead of a
8 heat rate trigger, SDG&E will aggregate customers into a Proxy Demand Resource (PDR) and
9 submit energy bids into the CAISO day-ahead market for their combined load reduction at a
10 predetermined price. The act of the bid clearing the day-ahead market, then becomes the trigger
11 for calling a CBP event.

12 6. Baseline Calculation

13 In order to accurately reflect load drop, SDG&E proposes shifting from an event baseline
14 that uses a 10 day average of individual customer usage over the preceding 10 similar days with
15 a 20% day-of adjustment individual to a baseline that uses a 10 - day average of aggregated
16 customer usage over the preceding 10 similar days with a 40% day-of adjustment. A detailed
17 analysis and discussion of baselines is presented in Section VII of Leslie Willoughby/Kathryn
18 Smith's testimony.

19 7. Three Year Contract

20 Although over 92% of SDG&E's non-residential customers have peak demands of less
21 than 50 kW, only 3% of the accounts on the CBP have a peak demand less than 50 kW. In fact,
22 currently just over 85% of CBP accounts have peak demands greater than 200 kW and only
23 about 7% of the accounts on CBP are less than 100 kW. These numbers show the success

1 Aggregators have had penetrating SDG&E's large customer segment and the challenge they've
2 had enrolling smaller customers. Cost effectiveness has been an issue in penetrating the small
3 customer segment and SDG&E recognizes the challenge that cost effectiveness presents to
4 Aggregators as they enrolled new customers on CBP. To address this challenge, SDG&E
5 proposes signing a three year contract with Aggregators for the new customers they enroll in
6 CBP. This guaranteed three year payment stream will increase the benefits of marketing, and
7 enrolling, smaller customers and smaller chain accounts. As a result of this program change,
8 SDG&E would accrue funds at the end of the program cycle to honor the remaining payments of
9 these Aggregator contracts in the out years.

10 8. Summary

11 CBP has been a successful program, in terms of customer acceptance, enrollment and
12 participation, as evidenced by the current and projected enrollment. SDG&E proposes to
13 continue the program during the 2012–2014 program cycle with only a few changes to the
14 program provisions currently in effect:

- 15 • SDG&E proposes removing the backup generation provision from the CBP and
16 adding a clause prohibiting the use of backup generation to achieve load reduction
- 17 • Eliminated multiple program participation for CBP.
- 18 • SDG&E proposes a 10% increase in their annual incentive payments with
19 increased payments for key months like August and reduced payments for
20 shoulder months like May.
- 21 • SDG&E proposes establishing a price trigger and bidding the CBP day-ahead
22 products into the wholesale market using CAISO's Proxy Demand Resource
23 (PDR) product.

- 1 • SDG&E proposes modifying the methodology for calculating the baseline load
2 from an individual 10-in-10 with a 20% adjustment to an aggregated 10-in-10
3 with a 40% adjustment.
- 4 • SDG&E, in an effort to support the Aggregators as they build their portfolio of
5 demand response resources, proposes allowing the Aggregators to sign three year
6 contracts with customers. As a result SDG&E would accrue funds at the end of
7 the program cycle to honor the remaining payments of these contracts in the out
8 years.

9 SDG&E's proposed budget for the CBP program is approximately **\$11.9 million** over the
10 three year cycle, as set forth in Appendix A. This is about a seven million dollar increase from
11 the 2009 – 2011 program cycle. This increase is reflective of a “best case scenario” of customer
12 enrollment. As discussed in Chapter II, Section IV of Athena Besa's testimony, cost recovery
13 will only occur after the costs are incurred by SDG&E and, therefore, this optimistic forecast
14 will not impact rates unless it is realized.

15 The continuation of CBP is expected to provide a significant contribution to the
16 availability of demand response resources to SDG&E, and to provide ongoing options to
17 customers wishing to participate in demand response. SDG&E's load impact analysis estimates
18 a load reduction potential from CBP of **28 MW** in 2014. An exemplary tariff for the CBP
19 program that reflects the proposed changes described above can be found in Appendix C.

20 **2. Price Responsive DR Programs Partially Funded within this Application**

21 ***DemandSMART™ Program (DSP)***

22 The 2009-2024 DemandSMART™ Program (DSP) is the result of SDG&E's 2010
23 Procurement Supply RFO, and is a third-party administered Day-Of Load reduction program that

1 offers capacity and energy incentive payments in exchange for reducing energy consumption
2 through enrolled end-use customers during demand response events. The program provides firm
3 capacity to SDG&E by reducing peak demand through the use of energy management expertise,
4 technology and communications networks. This program is available to commercial/industrial
5 customers, greater than 100 kW, receiving bundled service or Direct Access service and being
6 billed on a commercial, industrial or agricultural rate schedule. Participation in this program
7 must be taken in combination with the customer's otherwise applicable rate schedule. Customers
8 may only participate on the DSP through the authorized third-party. Customers participating in
9 the DSP are not eligible to participate in any other utility demand response programs that offer
10 capacity payments and energy payments.

11 This program can be called from the beginning of May until the end of October on any
12 weekday between the hours of 12 pm to 6 pm and is limited to one event per day and a maximum
13 of 50 hours per year. The DSP's administrator will be notified at least 30 minutes prior to an
14 event.

15 The DSP agreement is a 15 year contract, effective from 2009 through 2024. The
16 Aggregator committed to provide up to 25 megawatts (MW) of dispatchable load reduction
17 during the 2010 season, the Aggregator's commitment will increase to 35 MW during the 2011
18 capacity delivery season and finally to 40 MW starting with the 2012 capacity delivery season
19 until the end of the contract term. This program had limited success in its first season delivering
20 well below its capacity requirement of 25 MW. Even when a more favorable method for
21 calculating the baseline was applied to the 2010 participation, the delivered MW are still well
22 below the targeted capacity. SDG&E feels the San Diego customer base and their energy
23 consumption profiles may not be suitable for delivery of such an ambitious load reduction.

1 In addition to transitioning CBP customers to DSP, the contracted Aggregator has signed
2 up a number of new customers. Although the majority of customers have been signed up since
3 this program commenced, the load these new customers bring is significantly smaller than the
4 load from the older, CBP customers. In 2010, as DSP struggled to meet its commitment, it
5 became clear that San Diego's limited industrial base and relatively small population of non-
6 residential customers make it challenging to quickly develop a large non-residential demand
7 response portfolio.

8 SDG&E proposes one modification to DSP in this filing; eliminating Multiple Program
9 Participation (MPP) for DSP. The analysis and rationale for this decision can be found in
10 Chapter I, Section II of Mark Gaines' testimony, but in short SDG&E feels that allowing
11 customers to participate in DSP and CPP, over estimates the resources available to address
12 system upsets and will result in duplicative payments for the same DR capacity. Currently there
13 are 19 DSP customers (42 accounts) that are also on CPP. This change would require that these
14 customers either choose CPP and therefore cannot participate in DSP or stay on DSP and select
15 another tariff.

16 SDG&E's proposed budget for the DSP program is approximately **\$640 thousand** over
17 the three-year cycle, as set forth in Appendix A. The budget dollars listed above reflect only the
18 energy incentive costs for events during the program cycle. The balance of the Commission
19 approved contract costs is confidential pursuant to the RFO Solicitation to P.U. Code
20 583,454.5(g), GO 66-C and D.06-06-066.

21 The continuation of DSP will provide ongoing options to customers wishing to
22 participate in demand response. To prevent confusion and avoid double counting, the PIP for

1 DSP does not provide a load impact number, but SDG&E's load impact analysis estimates a load
2 reduction potential from DSP of **15 MW** in 2014.

3 ***Peak Time Rebate (PTR)***

4 In D.07-04-043 SDG&E received approval for its Advanced Metering Infrastructure
5 Project as well as funding approval for developing the Peak Time Rebate (PTR) program.
6 Funding for this project ends in 2011 and, therefore, the costs required for administering the PTR
7 program for the years 2012 – 2014 are included in this application.

8 The PTR program, adopted by the Commission in D.08-02-034, provides residential
9 customers the opportunity to earn a bill credit for lowering their consumption during PTR events.
10 Under the provisions of D.08-02-034, PTR has been approved to become effective only after
11 eligible customers have a Smart Meter installed at their premises and SDG&E has completed the
12 required IT and billing and notification system modifications necessary to implement PTR and
13 reflect the appropriate customer bill impacts. PTR billing and associated bill impacts are
14 currently anticipated for a scaled roll-out beginning in 2011.

15 SDG&E, through the PTR program, provides customers notification on a day-ahead basis
16 that a PTR event will occur on the following day. In emergency situations, a PTR event can be
17 called on a day-of basis to help address an emergency, but day-of events are not the primary
18 design or intended use of the program. During a regularly-scheduled billing period, customers
19 who reduce load during PTR events will receive a program incentive in the form of a bill credit.
20 The PTR program is designed to leverage SDG&E's Smart Meter installation to encourage large-
21 scale customer participation in DR events. PTR is a two-level rebate program, providing a basic
22 incentive level for customers that reduce energy use through manual means and a premium
23 incentive for customers that reduce energy use through automated enabling technologies.

1 Customers will be provided information about their level of participation through web
2 presentment channels, e-mails and on their energy bill. The applicable bill credit will be
3 calculated for participating customers based on their event day reduction in electric usage below
4 their established customer-specific reference level (Customer Reference Level or CRL, which is
5 a specific calculation of recent energy consumption).

6 The majority of SDG&E customers will be eligible for PTR participation in 2012 after
7 SDG&E IT system enhancements are complete and all customers' smart meters are installed and
8 tested. Customers will be provided with a PTR education kit including information on the PTR
9 program, a description of the meter and energy consumption data they will be provided and
10 guidance on how to reduce their energy consumption on PTR events. The intent of the
11 information is to assist customers in achieving the bill credit. Furthermore, through this kit and
12 other integrated marketing communications methods, customers will be encouraged to sign up
13 for day-ahead electronic notifications of peak days through email, text, voicemail, and other
14 similar technologies.

15 PTR relies on the modification of customer behavior, social change and customer
16 acceptance of new programs and technologies that make managing energy easier. PTR is an
17 opportunity to begin to transform its residential customer's knowledge about time-dependent
18 energy costs through the introduction of event driven incentive rates to customers who have not
19 traditionally been exposed to these types of rate structures.

20 The fundamental objective of the PTR program is to help customers on this rate achieve
21 load reduction during peak energy consumption periods. SDG&E believes that customers are far
22 more likely to respond positively to a PTR event if they have a clear understanding of what is
23 being asked of them and are given enough information to allow them to make an educated and

1 informed decision. Customers will be provided educational materials that are designed to: 1)
2 educate them on how DR and PTR are mutually beneficial, 2) educate them on the PTR rate and
3 their eligibility, 3) encourage them to sign-up in a peak day notification service, 4) present
4 tactical solutions that help them understand how to change their energy usage behavior during
5 peak-time rebate event notifications, and 5) encourage them to install automated enabling
6 technologies. Notifications informing customers of pending events may take the form of
7 outbound calls, email, text message, SDG&E website or the general media. Customers will be
8 able to find their Customer Reference Level (CRL) on-line and enroll for PTR event and
9 performance feedback notifications via email and/or text messages

10 The introduction of PTR in 2011 and its larger roll-out in 2012 is expected to provide a
11 significant contribution to the availability of DR resources to SDG&E, and to broaden the
12 participation of residential customers. SDG&E's load impact analysis estimates a load reduction
13 potential from PTR of **67 MW** in 2014. ~~The benefit from this load reduction is not included in~~
14 ~~our cost benefit analysis for SDG&E 2012-2014 DR portfolio, but the estimate is included here~~
15 ~~for completeness.~~ Although the initial funding for the customer communication and PTR
16 education was included in SDG&E's Smart Meter proceeding, and adopted by D.07-04-043,
17 SDG&E seeks to transition this program into the DR portfolio and, as such, requests incremental
18 PTR funding for administration, education and outreach of the program.

19 SDG&E's proposed budget for the administration, marketing, education and outreach of
20 PTR program for over 1.1 million residential customers is **\$4.44.8 million** over the 2012 – 2014
21 program cycle, as set forth in Appendix A. Additionally, as with CPP-D, because PTR is a rate-
22 based program, and was developed in the context of SDG&E's rate design proposals in its 2008

1 General Rate Case, SDG&E reserves the right and option to propose updates or modifications to
2 the PTR program in future Rate Design Window, General Rate Case or similar proceedings.

3 **3. Price Responsive DR Programs Not Funded within this Application**

4 ***Critical Peak Pricing – Default (CPP-D)***

5 CPP-D is a day-ahead DR rate option that became effective on May 1, 2008 and SDG&E
6 actively worked with its customers to prepare them for the new rate. Customers with a peak
7 demand greater than 200 kW were initially defaulted onto the CPP-D rate and customers with
8 peak demands between 20 and 200 kW are planned to be transitioned onto the CPP-D rate in
9 2013 pending complete smart meter deployment which includes billing infrastructure updates
10 and making one year of usage data available to customers.

11 CPP-D, in conjunction with the deployment of Smart Meters, provides customers with
12 the information and opportunity to manage their electric costs by either reducing their energy
13 consumption during high-cost pricing program event periods, or by shifting all or a portion of
14 their energy consumption from the higher-cost pricing periods to lower-cost pricing periods.

15 The CPP-D program is designed for bundled customers whose maximum demand is
16 equal to or exceeds 20 kW for twelve consecutive months, and whose facilities are equipped with
17 the necessary fifteen-minute interval data recording meter and telecommunications equipment.
18 Customers may choose to pay for the higher-priced critical peak period electricity when it is used
19 during a program event period, or they may opt to reserve a specific amount of energy through
20 the payment of a fixed Monthly Capacity Reservation Charge (CRC). In either instance, the
21 higher critical peak period energy charge paid by the customer or the CRC payments reflects the
22 customer's decision to either consume energy during the critical peak period, reserve a specific
23 amount of energy, or to reduce consumption during the critical peak periods.

1 Historically, customer participation in DR programs has been low, largely due to low
2 customer acceptance or a lack of customer education. With an aggressive awareness and
3 education campaign associated with the implementation of the CPP-D program, SDG&E hopes
4 to increase customer understanding and acceptance of DR, and thereby achieve greater
5 participation and results. Through the introduction of the CRC provision of the CPP-D program,
6 customers will be able to self-select and reserve a specific level of generation capacity that will
7 meet their individual electricity needs during critical peak pricing program events which, in turn,
8 will provide customers with the economic incentives to reduce their energy consumption to their
9 CRC level during a CPP-D program event. The concept behind the CRC is to provide customers
10 with a hedge against the CPP-D critical peak rate, by giving them the opportunity to reserve the
11 specific level of capacity they anticipate needing, at a fixed price. Customers are notified by
12 3:00 pm on the day prior to the activation of a program event, which is determined based on
13 established program triggers. Customers will have this advance notice of a CPP-D program
14 event and can adjust their energy consumption on the day of the program event. To facilitate the
15 transition onto CPP-D, the program offers bill protection to customers for the first 12 months that
16 a customer is on the program. Bill protection provides a risk-free opportunity to test CPP-D and
17 gain experience with the flexibility offered under this new program.

18 CPP-D has provided a significant contribution to SDG&E's DR portfolio and although
19 eliminating multiple program participation will impact CPP-D there is still forecasted growth as
20 smaller customers become eligible for the rate. SDG&E's load impact analysis estimates a load
21 reduction potential from CPP-D of **54 MW** in 2014. CPP-D program implementation and
22 administration was originally included within SDG&E's 2008 General Rate Case, and adopted
23 by D.08-02-034, **SDG&E does not seek additional funding for the CPP program as part of**

1 **this filing.** Because of synergies with SDG&E’s dynamic rate application (A.10-07-009), no
2 incremental CPP-D funding for the administration, marketing and outreach of the CPP program
3 is required in the next program cycle. SDG&E does not seek any changes to the CPP-D program
4 from what was adopted by D.08-02-034. Additionally, because CPP-D is a rate-based program,
5 and was developed through SDG&E’s rate design proposals in its General Rate Case proceeding,
6 SDG&E reserves the right and option to propose updates or modifications to the CPP-D program
7 in future Rate Design Window, General Rate Case or similar proceedings.

8 ***PeakShift @ Work***

9 The small nonresidential class of customers was initially scheduled to participate in the
10 Peak Time Rebate (PTR) program along with the residential sector. In accordance with
11 Commission guidance from the Pacific Gas & Electric Rate Design Window decision⁵, SDG&E
12 has proposed to bypass PTR (A.08-11-014) and transition the small nonresidential segment
13 directly onto the new PSW tariff (A.10-07-009).

14 PeakShift at Work (PSW) is a dynamic rate that will be the new default rate for small
15 (<20kW) non-residential bundled customers. PSW is SDG&E’s newly proposed day-ahead DR
16 rate option that includes Time of Day (TOD) energy prices with a rate adder that takes effect on
17 special ReduceYourUse Days when energy prices are expected to soar. As with its predecessor
18 CPP-D, SDG&E may call up to 18 ReduceYourUse Days in a year, based on the same triggers as

⁵ PG&E Dynamic Pricing Decision, D.08-07-045.

1 CPP-D. Customers will be notified by 3:00 PM the day ahead that the next day will be a
2 ReduceYourUse Day, and that the PSW rate adder will be in affect during the on-peak time
3 period.

4 Preparing the small nonresidential market for PSW represents a significant educational
5 challenge. All eligible small non-residential customers will be defaulted to PSW unless they
6 proactively select another option. In addition to the challenge of understanding PSW, the
7 customer will also be asked to take a much more active role in managing their energy usage,
8 since this will have a direct effect on their energy bill. For this to happen, customers must have
9 at least a basic understanding of the rates, and this requires that a significant effort to education
10 and outreach the rate and tools available. SDG&E plans a multi-year education and outreach
11 program so that customers can make fully informed decisions, and successfully manage their
12 costs under the new rate.

13 The funding for the PSW program implementation and administration was included
14 within SDG&E's A.10-07-009, and as such, **SDG&E does not seek incremental funding for**
15 **the administration, marketing and outreach of the PSW program.** SDG&E does not seek
16 any changes to the PSW program from what was just filed in A.10-07-009.

17 ***PeakShift @ Home***

18 In response to SB 695, which allows the Commission to implement time-variant pricing
19 on a default basis for residential customers, SDG&E is also proposing in A.10-07-009 PeakShift
20 at Home (PSH) as an opt-in dynamic rate for residential customers. SDG&E believes educating
21 residential customers on the concept of time-variant energy pricing will take time. Thus, by
22 implementing PSH as an optional rate, SDG&E can begin the process of exposing residential

1 customers to the concept of time-variant pricing in advance of implementing PSH as the default
2 rate for these customers in the future.

3 The PSH rate structure consists of TOD energy rates that vary by time period (on-peak,
4 semi-peak and off-peak) and by season (summer and winter). In addition, during critical peak
5 hours (11 AM to 6 PM) when ReduceYourUse events are called, energy rates will increase by
6 the amount of the PeakShift Period Adder.⁶

7 The PSH rate is a day-ahead rate designed to provide bundled customers with energy
8 price signals to encourage reductions in energy usage during higher priced hours. The main
9 objective of the PSH rate is to encourage demand response during high system peak days when
10 ReduceYourUse Days are triggered. Customers will pay significantly higher energy rates during
11 the relatively few critical peak hours of ReduceYourUse Days in exchange for paying lower
12 energy rates during all remaining hours of the summer period. The PSH rate structure will also
13 encourage customers to use less energy during peak hours year-round by charging higher energy
14 rates during on-peak and semi-peak hours compared to off-peak hours.

15 Customers are not able to receive more than one incentive payment for the same kWh
16 reduction. For this reason, customers choosing to take service on PSH will also be choosing to
17 opt-out of the PTR rate since participation on both PSH and PTR would provide customers with
18 double incentives for the same kWh reduction.

19 During a given calendar year the PSH program can call a maximum of eighteen (18)
20 ReduceYourUse Days any day of the week, year-round. Although ReduceYourUse Days can be
21 called year-round these days are most likely to occur in summer months (May through October)

⁶ Unlike the default CPP-D rate for medium and large non-residential customers, the opt-in PSW and PSH rate do not include a capacity reservation charge (CRC) component, which provides a hedge against ReduceYourUse Day pricing.

1 when hot weather prompts high air-conditioning use. The ReduceYourUse Day and trigger
2 provision is identical to what is proposed for PSW.

3 Consistent with notification requirements adopted for CPP-D and proposed for PSW,
4 notification will be no later than 3 PM the day before a ReduceYourUse Day. Customers may
5 elect to be notified of a ReduceYourUse Day by email message, text message, or alphanumeric
6 pager. Notification will also be posted on the SDG&E website.

7 Although not required for opt-in rates, SDG&E understands the obstacle in getting
8 customers to participate on PSH will be their uncertainty of the rate's benefits. SDG&E will,
9 therefore, include 12 months of Bill Protection for the first year a customer takes service under
10 PSH.

11 The funding for the PSH program implementation and administration was included
12 within SDG&E's A.10-07-009, and as such, **SDG&E does not seek incremental funding for**
13 **the administration, marketing and outreach of the PSH program.** SDG&E does not seek
14 any changes to the PSH program from what was just filed in Application 10-07-009.

15 *Summer Saver*

16 SDG&E's Summer Saver Program is a direct load control cycling program available to
17 residential, small business and agricultural customers with central air conditioners.
18 Administered under a third-party⁷ contract, the program utilizes direct load control during the
19 summer months to cycle customer end-use equipment as a tool to assist SDG&E in managing
20 electric system demand. Through direct load control, the program provides for participants'
21 equipment to be automatically controlled during times of high energy consumption, constrained

⁷ SDG&E's initial contract to administer the Summer Saver Program was with Comverge, Inc. Pursuant to the Second Amendment to the contract, effective January 19, 2007, the contract was assigned from Comverge, Inc. to Alternative Energy Resources, Inc. (AER), a wholly-owned subsidiary of Comverge, Inc.

1 energy supplies or transmission capacity, or other system emergency conditions. As currently
2 designed, Summer Saver Program events may be triggered by SDG&E based on a CAISO Stage
3 1 or Stage 2 event, or based on local system emergency or other conditions as determined by
4 SDG&E.

5 On June 9, 2004, the Commission issued D.04-06-011, which approved a number of
6 utility proposals to address short-term and long-term grid reliability needs. Among those
7 proposals approved by D.04-06-011 was SDG&E's proposal to implement an Air Conditioner
8 Cycling Program, through a third-party arrangement with Comverge, Inc. The original proposal
9 from Comverge was in response to SDG&E's May 16, 2003 Request for Proposals (RFP), and
10 targeted commercial customers with maximum demands no greater than 100 kW. SDG&E's
11 original contract with Comverge was approved by D.04-06-011, which also directed SDG&E to
12 amend the contract to include a residential customer component. SDG&E filed Advice Letter
13 1639-E on November 18, 2004, requesting approval of the First Amendment to the contract with
14 Comverge, which was approved by the Commission in Resolution E-3913, dated February 10,
15 2005. The amended contract, which is the basis of the Summer Saver Program, specified a 10-
16 year term, with an initial target load reduction capacity of 30.2 MW, and with a maximum
17 allowable demand response capacity of 70 MW (up from the original contract provision of 40
18 MW).

19 Subsequently, in D.06-11-049, the Commission approved SDG&E's proposals to add a
20 number of augmentations and improvements to its existing DR programs, which included several
21 additions to the Summer Saver Program. Those additions included providing residential
22 customers with a new 100% cycling option in addition to the existing 50% cycling option, and
23 offering non-residential customers a new 30% cycling option in addition to the existing 50%

1 cycling option. Further, the program was expanded to allow weekend program events for new
2 program participants. As a result of the expanded program provisions, SDG&E and Converge
3 negotiated the Second Amendment to the contract underlying the Summer Saver Program, which
4 was filed with the Commission in SDG&E's Advice Letter 1871-E on February 1, 2007. The
5 Second Amendment to the contract was approved, in part, by the Commission in Resolution E-
6 4078, dated April 12, 2007. As part of that Second Amendment, SDG&E and Alternative
7 Energy Resources (AER), Inc. agreed to an increase in the target load reduction capacity from
8 the original 30.2 MW to a new level of 42.2 MW, with a further revision to increase the
9 maximum allowable DR capacity from the original 40 MW to 100 MW at AER's sole discretion.

10 The Summer Saver Program is an integral component of SDG&E's DR portfolio, and,
11 pursuant to the existing contract between SDG&E and AER, will continue through (and beyond)
12 the 2012 – 2014 program cycle. As a result of the Commission's prior approval of the program
13 as a component of the May 16, 2003 RFP process in D.04-06-011, and the integration of the
14 program and associated funding up to the maximum allowable capacity of 100 MW, SDG&E
15 does not at this time seek any incremental funding for the Summer Saver Program.

16 SDG&E will continue with its current program marketing strategy and tactics during the
17 2012 – 2014 program cycle. The currently-effective contract between SDG&E and AER
18 outlines AER's program development and implementation work, and additional opportunities
19 will be evaluated to help further promote the program in conjunction with other energy
20 management programs.

21 Because the Summer Saver program is available to residential customers, and with the
22 implementation of the PTR program, it is possible that there may be occasions on which both a
23 Summer Saver and PTR program event will be activated on the same day. In those situations

1 | where both programs are called as a day-of event, customers participating in the Summer Saver
2 | and PTR programs will receive the capacity payment credit provided by their initial enrollment
3 | in the Summer Saver Program, as well as the current PTR energy credit for customers with
4 | enabling technologies of \$1.25/kWh of load reduction achieved during the PTR event. SDG&E
5 | does not consider this to represent a duplication of program incentive payments, as the capacity
6 | payment provided by the Summer Saver Program is just that---a capacity payment made in
7 | exchange for the customer's enrolled capacity in the program, capacity over which the program
8 | maintains direct load control. The PTR energy credit payment reflects an incentive payment
9 | made only on the condition of an actual measured load reduction achieved during a program
10 | event.

11 | SDG&E's load impact analysis forecasts a load reduction from Summer Saver of **24 MW**
12 | in 2014. Summer Saver program implementation and administration is funded through SDG&E
13 | long term resource planning RFP process, **SDG&E does not seek incremental funding for the**
14 | **administration, marketing and outreach of the Summer Saver program.**

15 |

1 **C. Enabling Programs and Pilots**

2 **1. Enabling Programs Funded within this Application**

3 ***Technical Assistance/Technology Incentives (TA/TI)***

4 SDG&E believes that both the Technical Assistance (TA) and Technology Incentive (TI)
5 programs are an essential strategy for the 2012 – 2014 program cycle in order to identify
6 opportunities, develop, grow and sustain load reduction through DR program participation, as
7 well as a means by which enabling technology can be further encouraged and utilized to help
8 achieve load reduction opportunities. The TA/TI programs currently function as a two-step
9 process in the development of DR opportunities. As the first step in the process, the TA audit
10 helps customers identify DR load reduction, load management and energy efficiency
11 opportunities. The TI program operates as the second step in the process, by helping customers
12 focus their attention and investment on specific opportunities and through the installation and use
13 of specific enabling technologies and systems. SDG&E proposes adding a third “assist” step to
14 the “identify” and “install” steps. This final step is a new design feature of the TI program and
15 will provide incentives for Aggregators that both help CPP-D customer participate in TI to install
16 enabling technologies as well as work with those customers, on an on-going basis to reduce their
17 load during CPP-D events.

18 With the introduction of the Default Critical Peak Pricing (CPP-D) program SDG&E has
19 seen increased customer interest and participation in the TA and TI programs and motivation in
20 managing energy consumption and costs. As new customers are placed on the CPP-D rate,
21 SDG&E believes that this trend of increasing awareness and interest in DR, energy management
22 and, in particular, the use of enabling technologies will increase. The TA and TI programs, as
23 well as a new third TI assistance step, are important vehicles in working with customers to

1 identify their DR and energy management opportunities, provide the financial incentives for the
2 installation of energy management technologies, and assist customers with their new enabling
3 technologies in achieving greater reductions across the entire DR portfolio.

4 ***Technical Assistance (TA)***

5 The TA program is essentially an energy audit service designed to survey a customer's
6 facility to help the customer identify methods for reducing energy costs and to encourage greater
7 participation in DR and EE programs. Customers who have a minimum demand of 20 kW or
8 higher are eligible to receive TA. During the current 2009 – 2011 program cycle, the TA audit
9 process has been geared towards identifying and quantifying DR strategies and finding EE
10 opportunities and leads. SDG&E intends to continue the TA audit process in much this same
11 fashion during the 2012 – 2014 program cycle while encouraging a more comprehensive EE
12 offering as well. Customers that qualify for a TA audit will receive an in-depth assessment of
13 their facilities and operations, which includes specific recommendations and calculations of kW
14 energy saving potentials. Customers can elect to use a preferred engineering firm to conduct the
15 TA audit, or they may request that SDG&E assign the audit to a firm that is under contract with
16 SDG&E. After the audit is complete, it is reviewed by the TA Review Engineer for verification
17 of the feasibility and calculation of the load reduction potential identified. The audit
18 recommendations will identify load reduction potential, as well as strategies, processes and
19 enabling technologies for achieving the load reduction. Customers will also be provided with
20 specific EE recommendations, including estimated costs, savings, payback periods, and the
21 likely program incentives and rebates that may be available. The integrated TA audit will also
22 recommend appropriate DR and EE programs for the customer to participate in. A new aspect of
23 the TA program is a link to the energy efficiency portfolio where their programs will pay the

1 auditor an incentive when customers install energy efficiency measures that were recommended
2 in their audits. Although historically TA audits have included energy efficiency
3 recommendations, this new feature will provide auditors additional motivation to find IDSM
4 opportunities.

5 The payment to the TA Auditor will continue to be limited to \$100/kW of approved load
6 shed potential, and will not exceed the actual total cost of the audit. For the 2012 – 2014
7 program cycle, SDG&E proposes adding a restriction to the payment for the TA audit. Payment
8 for the audit will be dependent on the customer’s enrollment in a DR program or rate for a
9 minimum of one year.

10 There is a high drop-off going from customers that have received a TA audit to customers
11 that install enabling technologies through the TI program. Currently SDG&E must perform over
12 seven TA audits to get one customer that is willing to install enabling technology through TI.
13 The drop-off for customers that participate in our DR programs is appreciably better, but still
14 only fifty percent: For every two Capacity Bidding Program customers that have had a TA audit
15 only one of them will install enabling technologies through TI. This program change will help
16 ensure that the TA audit money is targeted to customers that are seriously considering
17 participation in a demand response program or rate.

18 SDG&E will promote TA through its customer contact personnel, including Account
19 Executives, Program Managers, Demand Response Aggregators, Energy Management System
20 Service Providers and Trade Allies. SDG&E will also leverage its relationships with other
21 companies including the California Center for Sustainable Energy (CCSE), local engineering
22 consultants, lighting or HVAC contractors and equipment vendors.

1 **Proposed Changes to the TA Program**

- 2 • SDG&E proposes modifying the timing of the \$100/kW payment from its current
3 form, after the drop reduction test, to actual enrollment and participation in a
4 specific demand response program.

5 SDG&E’s proposed budget for the TA program is approximately **\$3.3 million** for the
6 2012-2014 program cycle, as set forth in Appendix A. This amount is notably less than the \$10
7 million funding request in 2009 – 2011, but this request is only for one year whereas the 2009 –
8 2011 request was for three years. As discussed in Chapter II, Section II of Athena Besa’s
9 testimony, and in accordance with the ALJ’s guidance ruling, the TA funding requested in this
10 application is for 2012 only. Funding for 2013 and 2014 will be requested in the IDSM section
11 of the energy efficiency application.

12 ***Technology Incentive (TI) Program***

13 The TI program provides qualified financial incentives to participating customers that are
14 intended to encourage customer adoption and installation of DR strategies, measures and
15 enabling technologies. TI is designed to help offset the customer’s costs of purchasing and
16 installing such systems and technologies by providing a financial incentive and interest-free On-
17 Bill Financing for qualified customers. The financial incentive is associated with the level of
18 energy reduction (kW) that the measure can provide. Eligible technologies include, but are not
19 limited to, energy management systems, remote switches, dual-level lighting, software upgrades
20 and the addition of control points. Upon the installation of the equipment, completion of a load
21 shed test to verify the load reduction enabled by an Automated Demand Response (AutoDR)
22 technology and enrollment in a DR program, the customer may receive an incentive payment of
23 up to \$300/kW of verified load reduction, not to exceed the cost of the project.

1 The \$300/kW incentive payment level represents a ceiling on the actual incentive
2 payments, depending upon the actual installed cost of the equipment and the results of the
3 customer's first year of participation in a DR program. In addition to the \$300/kW payment for
4 AutoDR enabling technologies, SDG&E currently offers a \$100/kW incentive for customers that
5 choose to install enabling technologies that are not AutoDR enabled.

6 For 2012 – 2014 SDG&E proposes eliminating the \$100/kW TI incentive payment for
7 approved non AutoDR enabled load reduction. SDG&E believes that the elimination of the non-
8 AutoDR incentive payment will encourage the installation of AutoDR systems and technologies
9 which, based on the Statewide Pricing Pilot are shown to provide better results during DR
10 events⁸.

11 Although TI load drop tests have over the last few years become more reflective of what
12 a customer can truly achieve during an event, SDG&E proposes tying TI incentive payment to
13 event performance actual customer performance during an event season to ensure incentives
14 more closely align with program results. SDG&E proposes modifying the requirements of the
15 \$300/kW incentive for each of the two payments from:

16 **First payment:** 60% payment upon completion of a load shed test

17 **Second payment:** 40% payment upon enrollment and participation in a specific demand
18 response program, to requirements that focus more on actual event results.

19 The proposed requirements for the \$300/kW incentive's two payments are:

20 **First Payment:** 60% (\$180/kW for verified load reduction) paid after the completion of
21 the load shed test and enrollment in a demand response program

22 **Second Payment:** 40% (up to \$120/kW for proven load reduction) based on the
23 customer load reduction results from their first year's participation in DR programs.

1 All applications for technology incentives must be submitted with an invoice and
2 supporting documents to SDG&E for evaluation. The customer must have a load shed test
3 completed, demonstrating and documenting the load reduction capability. The test engineer will
4 validate and approve the results of the load shed test. Final payment will be calculated after the
5 completion of the customer's first year in a DR program or rate and will be based on their
6 average annual program results.

7 **Proposed Technology Incentives CPP Premium Incentive Mechanism**

8 The CPP Premium incentive is designed to achieve greater energy reduction from CPP-D
9 customers during events. This incentive is designed to facilitate Aggregators in attracting CPP-D
10 customers to install enabling technologies and, after these technologies are installed, get
11 customers to maximize their load reductions during CPP-D events.

12 With a signed agreement an Aggregator can receive incentives for driving DR event
13 performance with CPP-D customers. Aggregators will be eligible for a \$4/kW-mo payment in
14 summer and a \$1/kW-mo payment in winter. The proposed budget for this incentive mechanism
15 is incorporated within the TI program. In order to be eligible for this incentive Aggregators must
16 work with customers, using TI funds, to install AutoDR enabling technologies. Upon installation
17 of enabling technologies, Aggregators will work with customers during CPP-D events to help
18 customers reduce their demand. Customers will benefit by reducing their CPP energy charges
19 and Aggregators will receive monthly payments that can reach \$30/kW-yr. Until an event is
20 called, the Aggregator payment will be equal to 75% of the customer's load shed test results.
21 Following an event, the payment will be based on the average of the customers' monthly results.
22 This value will carry forward for months when no events are called. A customer must average at

⁸ California's Statewide Pricing Pilot: Commercial and Industrial Analysis Update, 6/28/06.

1 least 50% of their load drop test results in order for the Aggregator to be eligible for the monthly
2 payment.

3 **Proposed Technology Incentives CPP Day-Of Incentive Mechanism**

4 The CPP Day-of incentive provides an event based energy payment to Aggregators for
5 day-of load reduction from customers they have signed up as part of the CPP Premium option
6 discussed above. CPP-D is a day-ahead program, but this payment would be for load reduction
7 from CPP-D customers that received day-of notification. It is anticipated that there will be
8 occasional system upsets with short notice; an example could be an incorrect mild weather
9 forecast on Friday for the weekend. High weekend temperatures drive the need to call an event
10 on Monday, but because of the mild forecast SDG&E would have missed the opportunity to call
11 CPP-D day-ahead. This component would allow SDG&E to, with short notice, call on
12 technology enabled customers that are supported by Aggregators and have a higher propensity to
13 respond to event. Energy savings for these events would be based on what these customers
14 would have used assuming a 10-in-10 baseline proposed for the Capacity Bidding Program. The
15 CPP-D rate would not change for the customer during this day-of event. The incentive for the
16 aggregator under this option is \$1.09/kWh and the proposed budget for this incentive mechanism
17 is incorporated within the TI program.

18 The following modifications to the TI program are proposed for the 2012 – 2014 program
19 cycle:

20 **Proposed Changes to the TI Program**

- 21 • SDG&E proposes eliminating the \$100/kW TI incentive payment for approved
22 non AutoDR enabled load reduction.

- 1 • SDG&E proposes modifying the \$300/kW incentive payments so that the first
2 Payment of 60% (\$180/kW for verified load reduction) is paid after the
3 completion of the load shed test and enrollment in a demand response program
4 and the second Payment of 40% (up to \$120/kW for proven load reduction) is
5 based on the customer load reduction results from their first year’s participation in
6 DR programs.
- 7 • SDG&E proposes providing Aggregators, through the CPP Premium Incentive
8 Mechanism, with an incentive payment of \$4/kW-mo in summer and \$1/kW-mo
9 payment in winter to facilitate working with CPP-D customers to drive load drop
10 during CPP-D events.
- 11 • SDG&E proposed providing Aggregators, through the CPP Day-Of Incentive
12 Mechanism, an incentive of \$1.09/kWh for to help CPP-D customers reduce their
13 energy use with short, day-of notification.

14 SDG&E’s proposed budget for the TI program is approximately **\$9.1 million** for the 2012 –
15 2014 program cycle, as set forth in Appendix A. This amount is less than the \$12.7 million that
16 was requested in the 2009 – 2011 program cycle. Although the scope of TI has expanded to
17 include the “CPP Premium” and “CPP Day-of” incentive mechanisms, TI expenses in the current
18 program cycle have been less than what was originally forecasted and, therefore, the TI budget
19 was adjusted accordingly.

20 *Emerging Technology*

21 The Emerging Technology Demand Responses (ET-DR) program consists of evaluating
22 demand-reducing technologies and strategies that are applicable to the San Diego region and
23 market. The focus is on technologies and strategies that promise significant, cost-effective

1 demand reduction in the short- or mid-term, and that appear to be sufficiently reliable and
2 scalable for market-wide implementation. The program is intended to identify, evaluate and
3 demonstrate technologies that have strong potential to reduce power consumption during periods
4 of higher energy prices or tight energy supplies in all SDG&E customer segments (residential,
5 agricultural, commercial and industrial), and to help in bringing these technologies to
6 commercial availability. To maximize DR, small-scale technology demonstration projects are
7 planned across SDG&E's customer segments. Working in partnership with customers,
8 manufactures and SDG&E program staff, technologies are also evaluated for potential inclusion
9 in statewide codes and standards. Additionally, collaborations with trade associations,
10 organizations and other California utilities help drive program objectives and reduce
11 demonstration and evaluation costs. Each project will evaluate and discuss the technology's or
12 strategy's barriers, risks, merits and cost effectiveness. Additionally each project will investigate
13 its applicability to DR and Energy Efficiency, its fit within SDG&E's existing programs as well
14 as the CAISO wholesale market. Finally, each report will have recommendations for further
15 support and next steps. Technologies or strategies tested in the ET-DR program and found to be
16 viable may subsequently be transitioned into existing utility programs or become the basis for
17 new programs in support of market introduction.

18 In addition to the testing and reports, the ET-DR program will help promote successful
19 technologies and educate customers on technology benefits. All final ET-DR reports will be
20 published on the Emerging Technology Coordinating Council's Website.

21 The ET-DR program will focus primarily on the following categories:

1 ○ **HVAC** – HVAC technologies have a large potential for demand response.
2 Projects will explore HVAC control technologies, both stand-alone and integrated into our Smart
3 Grid with special emphasis on technologies that are easy to retrofit into existing systems.

4 ○ **Energy Storage** – Decentralized energy storage can flatten the load curve by
5 shifting demand from peak times. Energy storage will support grid operations to balance local
6 power supply and demand. Innovative storage options will be explored with an emphasis on
7 practicality and cost effectiveness.

8 ○ **Advanced Controls** - A large amount of energy is wasted in unoccupied rooms
9 that are air conditioned, illuminated, or have other energy consuming devices that do not need to
10 be running. A subset of projects will focus on advanced controls that intelligently curtail, disable
11 or shift this energy use such that impact to building occupants is minimal with an emphasis on
12 technology that integrates with existing, enabling infrastructure such as internet connections, Wi-
13 Fi networks, BMS, AMI, home automation, etc.

14 ○ **Electric Vehicles** – Electric vehicles present a new and growing load control
15 opportunity. Emerging Technologies will test a variety of electric vehicle supply equipment
16 (EVSE), communication and transaction processing technologies. The EVSE equipment will
17 enable control of electric vehicle (EV) charging equipment and facilitate service pricing plan
18 options: start/stop load control and rate-of-charge commands (240V and 120V). Observe user
19 behavior in terms of charging equipment choices as influenced by relative ease-of-use and
20 pricing plans that reflect the cost of each type of EV charging option.

21 ET-DR doesn't provide direct incentives. Instead, ET shares between 0% and 100% of
22 the pilot implementation cost. The actual rate is determined on a case by case basis, and depends

1 on factors like total project cost, customer eagerness and risk tolerance, project payback and
2 anticipated load drop.

3 SDG&E's proposed budget for the ET-DR program is approximately **\$2.1 million** over
4 the three year cycle, as set forth in Appendix A.

5 *Small Customer Technology Deployment (SCTD)*

6 SDG&E's Small Customer Technology Deployment (SCTD) Program will offer
7 automated DR enabling technologies at no cost for up to 15,000 participating SDG&E residential
8 customers and as many as 3,000 small commercial customers (<100 kW). SDG&E proposes
9 using Smart Meter interval data to identify, market to, and install load control devices in the
10 homes of residential and small commercial businesses with significant air conditioning and
11 residential customers with mid-day pool pump usage.

12 SDG&E's SCTD program will target customers that participate in the Whole House and
13 Small Commercial Direct Install programs that SDG&E offers as part of our energy efficiency
14 portfolio. Additionally SDG&E will explore opportunities to target the roughly 200 participants
15 from our Borrego Springs Micro Grid Comprehensive Energy Efficiency Delivery Pilot. These
16 customers have demonstrated a desire for energy management and will be ideal candidates for a
17 more comprehensive IDSM solution.

18 These automated enabling technologies will provide incremental load reduction benefits
19 during demand response events and create a technology platform that will support future
20 dynamic pricing rate design for residential and small commercial customers. In fact, results from
21 the statewide pricing pilot suggest that for residential customers about two thirds of the demand
22 reduction can be attributed to enabling technologies.⁹ For small commercial customers the
23 results were equally noteworthy: customers with demands less than 20 kW were not price

1 responsive without enabling technologies, but displayed a significant level of price
2 responsiveness on critical day with enabling technologies. On critical days, customers with
3 demands between 20 kW and 200 kW were nearly twice as responsive with enabling
4 technologies as without. This price responsiveness resulted in a 13 percent reduction in peak
5 period energy use for customer with demands less than 20 kW and a 9.57 percent reduction for
6 customers with demands between 20 kW and 200 kW¹⁰.

7 Potential end use loads include central air conditioning, refrigeration, lighting, pool
8 pumps and electric water heaters. SDG&E may consider 3rd party Aggregators or vendors for
9 possible implementation of the SCTD program including the recruitment of potential customers.
10 Although commercially available enabling technologies for the residential and commercial
11 markets exist, the installation complexities require the average residential customer to have an
12 experienced vendor to make sure the devices are installed and commissioned to the customer's
13 smart meter properly. In addition to providing deeper load reductions, the SCTD program is
14 designed to increase the number of vendors capable of these installations and, over time,
15 SDG&E believes that the SCTD program will influence technology solutions that are simple
16 enough for the average home owner or renter to install and utilize during a DR event.

17 The 2009 - 2011 Residential Automated Controls Technology (RACT) pilot is intended
18 to evaluate customer acceptance and use of enabling technologies. Smart meter deployment
19 delays have caused the start of this pilot to slip from 2010 until April 2011. Data from this pilot
20 will inform both this program, and the PTR program discussed earlier, about system
21 functionality and equipment acceptance, use and value. These results will inform future
22 programs, including PTR, of ways to further encourage and support customer's use of such

⁹ Quantifying the Benefits Of Dynamic Pricing In the Mass Market, Appendix C.

¹⁰ California's Statewide Pricing Pilot: Commercial & Industrial Analysis Update.

1 technologies as they participate in DR programs. Upon completion of the RACT pilot, SDG&E
2 proposes filing an evaluation report and an SCTD implementation plan by Advice Letter for
3 Commission review. SDG&E requests approval of the SCTD program and budget with this
4 filing, but SDG&E will not launch the SCTD program until the Advice Letter has been
5 approved. SDG&E proposes limited spending prior to the approval of the Advice Letter to
6 support the RACT pilot infrastructure and customers.

7 SDG&E's proposed budget for the SCTD program is approximately **\$13 million** over the
8 three-year cycle, as set forth in Appendix A.

9 The SCTD Program has a forecasted load reduction potential of **12 MW** in 2014.

10 **2. Pilots Funded within this Application**

11 ***Locational Demand Response (LDR) Program***

12 Although SDG&E has only one local capacity area, it may benefit from a substation-
13 based locational demand response program that targets distribution circuits. This pilot will help
14 determine if locational demand response program at the circuit level can provide a large enough
15 load drop to justify scaling it up into a program

16 A locational demand response program that targets strained circuits might prove to be a
17 cost effective way to postpone system upgrades provided it can deliver consistent and guaranteed
18 results. Because there are so few options when a circuit reaches its capacity there needs to be a
19 high level of confidence that when an event is called customers will respond and do so in a
20 consistent, dependable way. This pilot will leverage existing programs, including energy
21 efficiency programs, to determine what load impact a concentrated marketing effort coupled with
22 premium, locational incentives can have on a targeted circuit. While energy efficiency and
23 demand response programs have value throughout SDG&E's territory, there placement on a

1 strained circuit has the added potential of distribution benefits. With this pilot SDG&E will
2 collaborate with the direct install energy efficiency program to not only reduce energy
3 consumption, but also power demand. SDG&E Energy Efficiency Direct Install program will
4 offer all C&I customers with peak demand less than 100 kW on the target circuit free retrofits of
5 select energy efficiency measures as well as making recommendations for other low cost
6 retrofits. Additionally, SDG&E will leverage their demand response enabling technologies
7 programs including Summer Saver, and SCTD programs to install load control devices, like
8 programmable communicating thermostats, that will increase load drop on event days. Finally,
9 SDG&E will offer premium incentives to customers on the target circuit that install and use
10 Permanent Load Shifting (PLS) technologies. This premium incentive is an emerging
11 technologies track for PLS and in order to qualify for this incentive the installed technology must
12 fall within the definition of emerging PLS technologies; technologies like batteries and small
13 thermal energy storage would qualify. The \$750/kW PLS incentive, \$500/kW from the PLS
14 program described in greater detail below and an additional \$250/kW for an emerging
15 technology, will be reduced to \$300/kW for technologies that cannot shift load for the prescribed
16 seven hours, but can deliver 3 hours of permanent load shifting within the 11 AM to 6 PM
17 timeframe.

18 SDG&E will investigate the load impact the energy efficiency and demand response
19 programs were able to have on the target circuit on a permanent basis and also determine the
20 event driven impact and consistency this pilot was able to affect.

21 SDG&E's proposed budget for the LDR is **\$433 thousand** over the three year cycle, as
22 set forth in Appendix A.

1 *New Construction Demand Response Pilot (NCDRP)*

2 The New Construction Demand Response Pilot (“NCDRP”) is designed as an enabling
3 technology deployment pilot for the new construction market. The pilot will test the New
4 Construction market as a delivery channel for SDG&E Demand Response (“DR”) enabling
5 technologies. SDG&E will work with builders, architects, and others weaving DR technologies
6 into the integrated building design process. The technologies that are installed will help achieve
7 load reduction during critical peak energy usage periods as well as provide customers with real
8 time information on dynamic pricing.

9 The NCDRP is uniquely positioned to investigate and affect demand response
10 opportunities during the construction of the building. These opportunities would either be lost if
11 not installed during construction or, at a minimum, would cost more to retrofit at a later time.

12 NCDRP will provide financial incentives as well as assistance for design teams to
13 facilitate participation in the pilot. This pilot will be integrated into SDG&E existing New
14 Construction Energy Efficiency Program offerings, namely California Advanced Homes
15 Program and Savings by Design. In fact, these two programs will act as the delivery channel for
16 the NCDRP technologies.

17 In addition to technology incentives, NCDRP will focus on providing education and
18 outreach to an audience that is currently not being reached.

19 • Design Assistance - SDG&E’s engineers and account executives will work with
20 design teams comprised of builders, architects and engineers to identify appropriate load control
21 technologies and strategies

1 • Workforce Education and Training (“WE&T”) – SDG&E will develop and
2 provide training for the builder’s sales staff. Providing their sales people with the tools to
3 explain the benefits of enabling technologies to potential buyers.

4 • Marketing Support – SDG&E will work with builders to develop marketing
5 material for their model homes that promote enabling technologies.

6 The NCDRP will target both residential and non-residential new construction projects.
7 SDG&E will work with developers to identify both a multifamily and a single family project.
8 Additionally, SDG&E will target three non-residential segments that represent common new
9 construction building types: Grocery, Office Building and Small Retail / Mixed Use.

10 SDG&E’s proposed budget for the NCDRP program is approximately **\$1.1 million** over
11 the three-year cycle, as set forth in Appendix A.

12

1 **D. Marketing and Outreach**

2 ***Customer Education, Awareness and Outreach (CEAO)***

3 Customer Education, Awareness and Outreach Programs are a comprehensive, multi-
4 faceted marketing/communications effort that entails a variety of initiatives aimed at increasing
5 customer knowledge, understanding and acceptance of DR and inciting behavior change/action.
6 This effort is essential to the successful communication, participation and execution of the
7 overall DR program portfolio. These initiatives provide the foundation for delivering DR
8 benefits to customers, and will complement both statewide efforts as well as the program-
9 specific marketing efforts to acquire new customers, retain existing customers and encourage
10 participation when called upon. The various general awareness and education initiatives are
11 intended to increase the overall awareness and interest in: 1) the DR concept; 2) the benefits DR
12 delivers to customers; and 3) the importance of DR programs in both the utility's and the
13 customer's energy management mix.

14 Customer Education, Awareness and Outreach efforts will extend across residential,
15 small/medium commercial, large commercial and industrial and direct access customer
16 segments, and will include the following:

17 ***Demand Response Education, Awareness and Outreach***

18 Background

19 As customers move from awareness of the entire integrated portfolio of EE and DR
20 programs to interest in a specific type of demand response program, campaigns and specific
21 materials are needed to move the customer through awareness and interest and towards
22 action/enrollment in a program; once the customer understands the benefits, they should be
23 driven to action. An integrated portfolio of both EE and DR programs and services will be

1 presented alongside the education around demand response as a concept in this effort, discussed
2 also in Chapter II, Section II of Athena Besa’s testimony. It should be noted that marketing
3 dollars from specific programs will focus on “closing the sale” – creating customer desire out of
4 easy to understand materials that clearly explain the benefits of that program. The marketing plan
5 for each individual demand response program is also a component of education, awareness and
6 outreach and all marketing/ communication efforts will be complementary.

7 Rationale

8 Customers are facing a fundamental shift in their perception of demand response, from
9 situational or emergency driven to price driven. Increased education will be needed to help
10 customers understand that demand response is about more than shifting load on hot days, that
11 additional monitoring and action may be required as the criteria for calling events is changing.
12 However, the original challenge still remains: demand response events continue to be driven by
13 specific conditions and are therefore episodic. Customers may experience a long delay between
14 enrollment in a program and an actual need for program participation/execution. Implementation
15 of an on-going awareness and education campaign is necessary to continue momentum and
16 ensure that SDG&E receives the necessary participation/reduction when demand response events
17 are called.

18 Education and Awareness Campaign

19 As we build awareness through continuity of messages and media over time, this broader
20 focus will educate and prepare customers for price responsiveness and the savings opportunities
21 that can be realized through the use of advanced meters and a combination of different demand
22 side management programs.

1 Target Audiences

2 Both business and residential outreach programs will target specific groups through a
3 collaborative communication process. The key underlying objective is to proactively position
4 SDG&E as the expert energy resource and facilitator for program education and participation.
5 Customer messages will be tailored in a manner that will enable customers to understand and
6 participate in demand response programs. SDG&E will provide information to show how
7 customers can shift and reduce during critical energy periods. We will also include information
8 on how to reduce consumption on an ongoing basis (energy efficiency and conservation).

9 Coordination with Statewide Marketing

10 SDG&E recognizes that an integrated statewide marketing, education and outreach
11 (SWME&O) campaign is important. The stated purpose of that program is to “increase consumer
12 awareness and participation in demand side management activities and to encourage behavior
13 changes that save energy, reduce greenhouse gas emissions, and support clean energy solutions.”
14 The importance of the utility’s role in communicating with our individual customers, however,
15 cannot be understated. In a 2009 study completed by Interbrand, an important finding was made
16 about the relationship between previous statewide messaging and local utility communications.

- 17 • “Despite 26% of respondents saying that Flex Your Power (FYP) had a unique message
18 about energy, a detailed examination shows that its key messages and actions are equally
19 credited to other brands, as well as a fictional brand (Green Power).
- 20 • The utility brands in the study often performed at parity with or above FYP on message
21 comprehension measures;

- Utility brands were equally credited with motivating energy saving actions and associated with smart energy use.¹¹

Utility customers most expect to hear information from their local provider, and oftentimes they attribute messages from other entities to the utility. It is therefore important that we maintain our own marketing and messaging in order to minimize customer confusion and drive home the various benefits of our programs and services through an integrated marketing effort.

SDG&E's proposed budget for the Customer Education, Awareness and Outreach program is approximately **\$2.4 million** over the three year cycle, as set forth in Appendix A. This budget proposal reflects a reduction in scope from the 2009 – 2011 program cycle years which, as directed by the ALJ Guidance Ruling, SDG&E anticipates including in the Integrated Demand Side Management chapter of the energy efficiency proceeding.

Flex Alert Network and Engage 360

Background

Flex Your Power (FYP) was California's statewide energy efficiency marketing and outreach campaign, initiated in 2001. In 2008, there was an indirect impact program evaluation feedback report showing that the FYP program affected general awareness rather than behavior. From that analysis, the CPUC directed utilities to fund strategic activities that would provide “a comprehensive focus that is necessary to engage consumers in adopting energy efficiency broadly as a way of life.” Four strategic activities were outlined: (1) Develop an energy efficiency brand; (2) integrated marketing; (3) social marketing; and (4) internet based networking. Given this directive, Engage 360 was developed and the Flex Alert program was

¹¹ Interbrand; Final Draft Public Brand Assessment Report; November 16 2009, page 11.

1 transitioned to fall under the integrated statewide Marketing, Education and Outreach (ME&O)
2 efforts.

3 Flex Alert Network (FAN), formerly known as Flex Your Power Now (FYPN), is the
4 demand response extension of Flex Your Power (FYP). FAN conducts a Flex Alert to notify
5 California businesses, governments, and residents when California's energy resources are
6 reaching peak levels to prevent Stage 1 Emergencies.

7 In Q3 2010 California IOU's partnered with the new implementers of the Engage 360
8 brand (Draft FCB) to develop a campaign to transition the Flex Alert program components from
9 the former implementer, McGuire, and re-launch a new emergency alert notification system to
10 replace Flex Alert in 2011. The re-launch will include not only an emergency alert notification
11 system, but will also include an expanded scope to create a general awareness campaign to be
12 developed around demand response concepts at a high level.

13 General Awareness

14 In an effort to begin laying the foundational groundwork for holistic education around time
15 of use pricing, etc., the statewide ME&O team believed the new program design would have a
16 component for general awareness. This general awareness effort would focus on a message
17 which educates customers on reducing electricity during peak hours. The strategy would
18 incorporate four key actions for participants: (1) Turn up A/C to 78 degrees or higher; (2) Use
19 major appliances after 7pm; (3) Don't use unnecessary appliances; and (4) Tell others.

20 This effort would continue to be a collaboration among California's utilities, residents,
21 businesses, institutions, government agencies and non-profit organizations working to reduce
22 peak energy consumption. Historically, the Flex Alert campaign (media buys, etc.) had been
23 available for standby use; however there had not been any Flex Alert related activity at the

1 statewide level since 2007. Therefore, the program is underspent due to lack of Flex Alert
2 events, primarily due to additional DR programs adding reliability to the grid and sufficient
3 Resource Adequacy throughout the state. The general awareness campaign effort brings another
4 level of visibility for peak energy conservation.

5 Program Proposal

6 The focus for 2011 is to transition the scope of work outlined in the FYP effort to be within
7 the scope of the new Engage 360 campaign. This scope included changes of the lead IOU
8 administrator from PG&E to SCE. During 2012 and 2013, it is proposed that the implementation
9 of the DR general awareness campaign effort and the implementation of the event notification
10 system become the focal point of the DR Emergency Alert effort.

11 Budget to Implement Program

12 SDG&E is requesting only funding for 2012 in the amount of **\$210,000** to continue Flex
13 Alert Network one additional year before transitioning to EE.

1 **E. Non DR Programs Funded Within This Application**

2 ***Permanent Load Shifting (PLS)***

3 The Commission has determined that Permanent Load Shifting, while not a DR program, is to be
4 included and funded in the Utility DR Applications. Permanent Load Shifting (PLS) is routine
5 load shifting from one time period to another to help meet peak loads during periods when
6 energy use is typically high. PLS decreases electricity usage during peak hours and shifts load to
7 other hours to provide operational and resource planning benefits for the utility or ISO systems

8 D.06-11-049 directed the utilities to initiate a Request for Proposal (RFP) process to
9 solicit five-year proposals from third parties for permanent load shifting programs. In the 2009 –
10 2011 program cycle SDG&E worked with the two contractors that they selected from PLS RFP
11 released in 2008. The technologies implemented in San Diego included Thermal Fly Wheeling
12 and Gas Cooling. The results of these pilots were included in the PLS report that was issued
13 November 30 under A 08-06-001 Statewide Joint Utility Study of Permanent Load Shifting.

14 SDG&E’s PLS program will focus on two technology types: Thermal Storage and Non-
15 Thermal Storage. An example of thermal storage is making ice or chilled water at night to
16 provide cooling during the day thereby reducing the on-peak air conditioning load. Non-thermal
17 storage includes chemical batteries that are charged with electricity during the night and
18 discharged during on-peak hours. SDG&E’s proposes providing a standard capacity offer of
19 \$500/kW, target contractors who will work with customers to implement the selected
20 technologies and to ensure systems are properly designed, properly built and commissioned and
21 properly operated. The contractors, guided by the results of the E3’s Permanent Load Shifting
22 study, use the capacity based standard offer to provide customers the technology to shift energy

1 use, on an on-going basis, away from weekdays 11 AM to 6 PM. during May 1st through Oct
2 31st.

3 For the 2012 – 2014 program cycle, SDG&E’s load impact analysis estimates a load shift
4 potential from PLS of **4.5 MW** in 2014 and SDG&E’s proposed budget to administer the PLS
5 program is approximately **\$3.1 million**, as set forth in Appendix A.

6

1 **V. QUALIFICATIONS**

2 My name is George Katsufrakis. My business address is 8335 Century Park Court, San
3 Diego, California, 92123. I am employed by San Diego Gas & Electric as Manager of
4 Operations for Customer Programs. My responsibilities include design and implementation of
5 energy efficiency and demand response program for the Sempra Energy Utilities. I have been
6 employed by Sempra Energy Utilities since 1996.

7 I graduated from University of California, Berkeley with a Bachelors of Science degree
8 in Mechanical Engineering and I am a registered professional engineer in California.

9 I have not previously testified before the Commission.