

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 I

PREPARED DIRECT TESTIMONY OF

MARK GAINES

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

March 25, 2011

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1 **CHAPTER I**

2 **PREPARED DIRECT TESTIMONY**

3 **OF MARK GAINES**

4 **I. PURPOSE**

5 The purpose of my testimony is to present San Diego Gas & Electric Company's
6 ("SDG&E's") overall strategies and policy recommendations used in the development of the
7 demand response ("DR") programs that SDG&E proposes to offer to its customers during the
8 three-year program cycle of 2012-2014. In testimony following this chapter, SDG&E provides
9 the details on its Integrated Demand Side Management ("IDSM"), Information Technology
10 Support and DR Cost Recovery Mechanism (Witness Besa), Program Portfolio and Budget
11 (Witness Katsufakis), Cost Effectiveness (Witness McKinley), and Load Impacts (Witness
12 Smith).

13 The first step SDG&E took in planning for this Application was to conduct a
14 comprehensive strategic planning exercise looking three to five years into the future. This
15 planning exercise was necessitated by what we saw as dramatic changes developing in many
16 areas impacting the DR marketplace including:

17 1. Dramatic changes in the regulatory environment with the planned implementation
18 of default time variant rates.

- 19 a. In D.08-02-034, SDG&E received approval to default all non-residential
20 customer > 20 kW (approximately 22,000 customers) to critical peak pricing
21 (CPP) rates in 2013 with associated customer education and outreach efforts
22 prior to that date.

1 b. In Application A. 10-07-009 is seeking approval to default all non-residential
2 customers < 20kW (approximately 120,000 customers) to CPP rates and
3 optional CPP rates for all 1.2 million residential customers in 2013.

4 2. Dramatic changes in the technology environment with the deployment of smart
5 meters and the emergence of lower cost, sophisticated energy management systems,

6 a. With the completion of SDG&E's smart meter installations in the 4th quarter
7 2011, all of SDG&E's customers will have the opportunity to monitor their
8 energy use real time with compatible in-home/business devices.

9 b. With the growth of smart meters across the country, many companies are
10 beginning to offer in-home/business devices to assist customers in monitoring
11 and/or managing their energy use including Tendril, Control4, OpenPeak,
12 Microsoft, Motorola, AT&T and others.

13 c. The predicted market opportunity for in-home/business devices has been
14 estimated at over 28 million users by 2015, according to Pikes Research.¹

15 3. Dramatic changes in the wholesale DR market environment with the
16 implementation of the California Independent System Operator's ("CAISO") day-ahead market.

17 a. MRTU was launched in April 2009 and now provides day-ahead and real-time
18 pricing to better plan and price electric supply resources, including DR.

19 4. Dramatic changes in the retail DR market environment with increased Aggregator
20 participation.

21

¹ Appendix A; ATTACHMENT 1 - Pikes Research; "Home Energy Management Users Will Reach 28 Million by 2015" December 10, 2009.

- 1 a. SDG&E's non-residential customer participation in DR programs/rates has
2 increased from approximately 400 in 2006² to over 15,000 in 2010³,
- 3 b. All customers participating in SDG&E's Capacity Bidding program are
4 represented by Aggregators⁴.

5 All of these pending environmental changes needed to be considered as we developed
6 our portfolio of DR products and services to ensure the portfolio maximized the availability of
7 cost effective DR.

8 Another important component of SDG&E's portfolio planning effort was to seek input
9 from key stakeholders including Energy Division staff, participating customers, Aggregators and
10 automated control technology suppliers. This was accomplished through one-on-one interviews
11 as well as two public workshops held on October 5th⁵ and January 27th.⁶ Invited to the
12 workshops were 9 Aggregators/program implementers, 4 consumer/public organizations and
13 over 50 commercial/industrial customers that actively participate in DR. We also followed the
14 Administrative Law Judge's *Ruling Providing Guidance for the 2012-2014 Demand Response*
15 *Applications* issued 8/27/2010.

16 As a cumulative result of the strategic planning activities, stakeholder feedback and our
17 program operating experience, SDG&E established three guiding principles to develop our DR
18 portfolio and achieve our overarching objective to maximize the availability of cost effective
19 DR. We utilized these principles to guide our overall portfolio development.

² Appendix A: ATTACHMENT 2 -SDG&E 2006 DR Event Summary.

³ Appendix A: ATTACHMENT 3 - SDG&E 2010 DR Event Summary.

⁴ Appendix A: ATTACHMENT 4 - Capacity Bidding Program list of participating Aggregators.

⁵ DR Program Advisory Group Presentation, 10/5/2010, and SDG&E DR Advisory Panel Summary of Key Issues 10/13/10. <http://sdge.com/regulatory/cpuc.shtml>

⁶ DR Advisory Feedback Presentation, DR Program Res New Construction Summary for DR Advisory Panel, DR Program Non Res Summary for DR Advisory Panel; 1/27/11. <http://sdge.com/regulatory/cpuc.shtml>

- 1 1) Simplify SDG&E’s DR programs to facilitate and expand customer and Aggregator
2 participation;
- 3 2) Be comprehensive to ensure all potential DR opportunities become available to the
4 marketplace; and
- 5 3) Promote automated controls to maximize customer response and enhance the
6 reliability of DR resources;

7 Later, in Section III of my testimony, I discuss at a high level how SDG&E’s DR
8 portfolio reflects these guiding principles. However, during our portfolio development process
9 we identified ~~six~~ five important policy issues that have the potential to significantly impact our
10 ability to maintain consistency with these principles. We are asking for specific guidance from
11 the CPUC on these policy issues:

- 12 1. The Commission should prohibit multiple program participation where both
13 programs provide resource adequacy (“RA”),
- 14 2. The Commission should revisit its policy on bi-lateral DR contracts in SDG&E’s
15 service territory and decline future contracts,
- 16 3. The Commission should direct SDG&E’s DR programs to provide RA, and leave
17 DR providing only energy or ancillary service benefits to participate directly in CAISO markets,
- 18 4. The Commission should authorize program payment rates to be guaranteed to
19 Aggregators for a 3 year period from the date of signature,
- 20 5. The Commission should make adjustments to the fund shifting rules to allow
21 greater flexibility in reacting to changing customer preferences,
- 22 6. The Commission should explicitly authorize joint contracting on statewide
23 programs activities to further the goals of the demand response programs

1 Section II of my testimony provides greater detail on why SDG&E views these policy
2 issues as critical and justification for our recommendations

3 **II. POLICY RECOMMENDATIONS**

4 **A. The Commission should prohibit multiple program participation where both** 5 **programs provide RA**

6 In Decision 09-08-027, the Commission ruled that "... it is reasonable and consistent
7 with the Commission's policy of encouraging cost effective demand response activities to allow
8 customers to participate concurrently in two demand response activities and programs, as long as
9 duplicative payments for a single instance of load drop can be avoided."⁷ SDG&E supported
10 that decision and implemented its provision under Rule 41 during the summer of 2010.

11 SDG&E's support of multiple program participation was primarily driven by two assumptions.
12 First, with the implementation of CPP rates, we were concerned that Aggregators would not be
13 able to maintain a viable business model serving CPP customers without a capacity payment and
14 therefore would be incented to either pull customers off CPP and into DR programs, which
15 provides no incremental benefit, or abandon SDG&E's service territory. Second, we envisioned
16 an ongoing need for day-of programs to respond to day-of system upsets that were separate from
17 day-ahead DR program events. We now believe the first assumption can be better resolved with
18 technology incentives and program additions designed specifically to serve CPP customers, and
19 we believe the second assumption has proven to be incorrect based on operating data .

20 In D09-08-027, the Commission also struggled with how to categorize CPP rates stating
21 "Critical Peak Pricing has elements of both a capacity payment program and an energy payment
22 program."⁸ However, in the interest of achieving maximum DR participation, the Commission

⁷ At page 13

⁸ At page 13.

1 ruled that CPP would be considered an energy program and eligible for multiple program
2 participation with day-of DR capacity programs.

3 After reviewing the data on multiple program participation and reviewing the history of
4 program events, SDG&E has concluded that multiple program participation for CPP and day-of
5 DR programs is too overlapping, leading to an overestimation of DR capacity available for
6 resource planning and likely leading to duplicative payments for the same capacity. We believe
7 the situation will be aggravated as default CPP rates are introduced to significantly more
8 customers in the future. Table 1 below summarizes the number of customers participating in
9 multiple DR programs and their associated load impacts.

10 Table MG-1: Summary of Multiple Participation in 2010 DR Programs

Day-of DR Program	Total # of Participants	# Also Enrolled in CPP	% Dual Participation	% of MWs in Multiple Program Participation⁹
DemandSMART™	105	42	40%	36%
Base Interruptible Program	20	6	30%	91%
Capacity Bidding Day-of Program	584	35	6%	18%

11 In Decision 09-08-027, the Commission stated “If necessary, the rules established here
12 can be reassessed as programs develop and utilities gain experience with new programs and
13 program interactions.”¹⁰ SDG&E believes the frequency and magnitude of DR program overlap
14 warrant reconsideration of these rules.

⁹ Witness Smith’s testimony Table KS-3

¹⁰ At page 16.

1 In 2009, SDG&E called eight CPP-D events and four of those events coincided with
2 Capacity Bidding Day-of events (50% overlap). DemandSMART did not exist in 2009 and no
3 Base Interruptible Program events were called in 2009.

4 In 2010, SDG&E called four CPP-D events and all four of those events coincided with
5 Capacity Bidding (“CBP”) Day-of Program events (100% overlap), DemandSMART was called
6 two of those days (50% overlap) and Base Interruptible Program (“BIP”) was called one of those
7 days (25% overlap).

8 The existing methodology to compensate SDG&E for lost capacity on overlapping
9 program event days is to withhold the Energy Usage Reduction Incentive Payment while the
10 Capacity Performance Incentive is held whole. To put this into perspective, a customer
11 participating in both CPP-D and Capacity Bidding Day-of Program (6 hour option) during 2010
12 would have received \$69.14 for each kW of demand reduction delivered from the Capacity
13 Bidding Program regardless of how many multiple event days were called, but their energy
14 payment would have been reduced from \$3.00/kW to \$1.20/kW due to the four overlap days
15 with CPP-D events. This calculation illustrates that the existing DR payment adjustment for
16 multiple program event days is insufficient to compensate SDG&E’s customers for the reduced
17 DR resource availability. As default CPP expands from its approximately 2500 existing
18 customers to over 120,000 in 2013, the potential impact of overlap event days will increase
19 significantly resulting in double counting of a potentially significant amount of DR capacity. In
20 summary, SDG&E recommends CPP customers from participating in CBP, BIP or
21 DemandSMART.

22 SDG&E proposes an alternative to multiple program participation that we believe will
23 create a viable business model for Aggregators to provide automated control technology and on-

1 going DR support to CPP customers. The benefit to ratepayers is increased demand response
2 during CPP events¹¹ without double counting of DR resources. The details of this proposal,
3 called the CPP Premium incentive mechanism, are discussed in George Katsuftrakis' testimony
4 but the general concept is to provide a monthly capacity payment to Aggregators who provide
5 DR services to Auto DR equipped CPP customers.

6 In addition to the monthly capacity payment under the CPP Premium, SDG&E proposes
7 to provide a CPP day-of incentive mechanism to participating Aggregators as incentive to
8 provide those same CPP Premium DR resources on the rare occasion when CPP has not been
9 called but DR capacity is needed on a day-of basis .

10 In total, this proposed alternative to the existing multiple participation rules increases the
11 available customer base for Aggregators, provides participating customers with a valuable tool to
12 maximize their CPP benefits and minimize their costs over the long-term and leverages the Auto-
13 DR technology for day-of events when needed. All of these benefits are achieved without the
14 threat of double counting RA in resource plans and without the threat of double payment for that
15 capacity.

16 Finally, SDG&E does continue to support multiple participation where customers or
17 Aggregators provide services directly to CAISO day-of energy or ancillary service markets when
18 not called for a day-ahead DR event. These markets are important and can provide significant
19 benefits aside from meeting peak demand. With more renewables coming online, these markets
20 may be able to provide additional revenues for customers and/or Aggregators.

¹¹ California Statewide Pricing Pilot at page 9, "The peak-period reduction for the Track C treatment equaled roughly 27 percent. About two-thirds of this reduction can be attributed to the enabling technology and the remainder is attributable to price-induced behavioral changes."

1 **B. The Commission should revisit its policy on bi-lateral DR contracts in SDG&E’s**
2 **service territory and decline future contracts**

3 By CPUC directive, SDG&E currently has one approved bilateral DR contract
4 (“DemandSMART”) with EnerNOC from SDG&E’s 2007 New Local and Off-System Capacity
5 RFO and three potential bilateral DR¹² contracts from its 2009 Demand Response, Local Peak
6 Capacity, and Off-System Resource RFO. Those three potential bilaterals will be filed with the
7 CPUC for approval if and when negotiations are complete, but, as of this date we have not
8 reached agreement on all terms and conditions with any of the DR providers.

9 However, after monitoring the DemandSMART program roll out and discussing its
10 performance and impacts with Aggregators, we have serious concerns about the ability of
11 Aggregators to deliver their committed loads under these existing and potential contracts and
12 concerns about the impact of these contracts, targeted at medium and large customers, on the
13 health of the overall DR market in SDG&E’s service territory.

14 SDG&E has long been convinced that Aggregators play a vital role in the success of our
15 DR programs by helping us educate customers about the benefits of DR, supplying Auto-DR
16 technology and insulating customers from DR performance penalties. As a result, we have tried
17 to facilitate the growth of Aggregators in our service territory by offering our Technical
18 Assistance/Technical Incentives Program, promoting an Aggregator friendly business model in a
19 CPP rate environment and promoting Aggregators in our discussions with customers and on our
20 web site. However, we are concerned that bilateral DR contracts are not having the intended
21 effect of adding incremental DR, but cannibalizing existing DR programs and other bilateral
22 contracts. As evidence, 63% of the enrolled load and 38% of the customers assigned to the

¹² SDG&E is still negotiating the terms of these contracts and will file them separately for consideration by the CPUC when the negotiations are complete, unless otherwise directed by the CPUC.

1 DemandSMART program participated in the Capacity Bidding program prior to the existence of
2 DemandSMART.

3 The new bilateral DR contracts SDG&E is currently negotiating will each be cost
4 effective on a stand-alone basis before being submitted to the Commission for consideration.
5 However, because they each essentially target the same customer segments but have different
6 capacity payment rates, they will inevitably establish a hierarchy of capacity incentive values
7 available to those customers. The highest paying contract has an obvious advantage over the
8 other competing contracts and other DR programs which results in a chair shuffling exercise.
9 The hierarchy is reshuffled with the next round of bilateral contracts or price changes in a DR
10 tariffed program and each reshuffle will likely just trade existing DR customers rather than
11 creating new DR capacity. Our discussions with Aggregators indicate this scenario has already
12 materialized, to some degree, with the DemandSMART program and will likely be aggravated
13 with any new bilateral contracts.

14 To avoid this type of reshuffling of customers that has no benefit to utility consumers,
15 SDG&E recommends that, within its service territory, no further DR bilateral contracts be
16 requested or approved by the CPUC. Instead, SDG&E will work with Aggregators to maximize
17 customer participation in our existing tariffed DR rates and DR programs along with allowing
18 participation in the CAISO's wholesale energy and ancillary services markets. SDG&E believes
19 this approach will create a robust, open and competitive environment for all Aggregators while
20 letting the marketplace decide who is best based on the Aggregator's products, services and
21 customer service.

1 **C. The Commission should direct SDG&E's DR programs to provide RA, and leave**
2 **DR providing only energy or ancillary service benefits to participate directly in**
3 **CAISO markets**

4 SDG&E believes the primary value of its DR programs and rates is to provide local
5 capacity to meet peak demand and thus avoid the cost of purchasing or building additional
6 resources to maintain reliability of the electrical system. We also recognize that DR resources
7 can provide short-term value by participating in the ancillary services market and reducing the
8 clearing costs of the CAISO's hour ahead and real time markets. SDG&E is fully supportive of
9 the use of DR resources in the ancillary services market but we believe that utility intervention in
10 the form of DR programs is not desirable. Customers and Aggregators should participate in
11 these markets directly, interacting with the CAISO, and avoid the utility as a middleman.

12 SDG&E has conducted its Participating Load Pilot and is in the enrollment stage of
13 implementing its DRWMP Pilot. Both of these DR pilots target ancillary services and are
14 justified as technology and market demonstrations. The information learned from the pilots will
15 be shared with the Commission, CAISO, customers and Aggregators to encourage and facilitate
16 their direct participation in the CAISO hour ahead and real time markets. However, once the
17 pilots are concluded, it is SDG&E's preference that customers and Aggregators participate
18 directly in the CAISO markets to provide these services.

19 **D. The Commission should authorize program payment rates to be guaranteed to**
20 **Aggregators for a 3 year period from the date of signature**

21 As is the case with many businesses, Aggregators spend considerable time and money
22 up-front to acquire and integrate new customers. Recovering that up-front investment takes
23 some period of time (perhaps 1 to 3 years) before profits can be attributed to their efforts. Any
24 uncertainty of cash flow during that cost recovery period diminishes the attractiveness of that
25 customer especially if they are small customers with marginal profitability to begin with. Within

1 the three year DR cycle, the certainty of that cash flow for Aggregators diminishes as we
2 approach the end of a cycle because there is no certainty the programs will continue in the next
3 cycle or that the capacity payments will be at or above their existing levels.

4 To address this uncertainty and encourage Aggregators to target smaller C&I customers,
5 SDG&E recommends the CPUC authorize guaranteed payment rates for a 3 year period for its
6 Capacity Bidding Program and CPP Premium incentive mechanism from the date of signature.
7 Aggregators and/or customers would be guaranteed existing payment schedules for the life of the
8 contract unless payments are increased in the subsequent cycle, in which case the contract would
9 be transitioned to the higher value. Aggregators and/or customers would also be able to cancel
10 the contract if they choose to move to another DR program or rate for the same or longer time
11 and load reduction commitment.

12 SDG&E believes these contract proposals would be very beneficial in furthering its
13 efforts to create a positive business environment for Aggregators, to maximize the availability of
14 DR support services to customers and to maximize the DR resources available to SDG&E.

15 **E. The Commission should make adjustments to the fund shifting rules to allow**
16 **greater flexibility in reacting to changing customer preferences**

17 SDG&E believes that longer term (i.e., multi-year) programs and funding are critical
18 elements of a successful DR program portfolio because of the continuity and stability that they
19 bring to the marketplace. Just as important, however, is the establishment of a process by which
20 SDG&E can propose and seek Commission approval of DR program and budget changes. These
21 changes may include budget modifications to react to unanticipated customer demand,
22 elimination or revision of program elements that prove to be unsuccessful, and opportunities for
23 enhancements or additions to programs that may be identified. These program changes may be

1 identified either through practical experience, technological developments or customer feedback
2 during the program cycle.

3 **F. The Commission should explicitly authorize joint contracting on statewide**
4 **programs activities to further the goals of the demand response programs**

5 In D.09-08-027 the Commission has ordered the SDG&E, PG&E and SCE (“Joint
6 IOUs”) to collaborate to further the implementation of a number of statewide DR programs and
7 activities.¹³ While the overarching directive to coordinate is clear, it is not apparent which
8 specific activities the Commission is authorizing the Joint IOUs to engage in to further this
9 directive. SDG&E believes that further Commission direction is now needed to address a legal
10 issue regarding joint-utility cooperation posed by the antitrust laws that could impede the Joint
11 IOUs’ ability to comply with these directions unless the Commission specifically grants the Joint
12 IOUs state action immunity for such cooperation. Specifically, agreements between competitors
13 such as the Joint IOUs concerning core elements of the competitive process, including
14 agreements on price and output, could be viewed as unlawful under the antitrust laws under
15 certain circumstances,¹⁴ thus subjecting the ratepayers or shareholders to the significant costs of
16 defending an antitrust lawsuit and the potential of treble damages if the lawsuit is successful.
17 SDG&E therefore has concerns regarding coordinating Joint IOUs’ activities or otherwise
18 working cooperatively in order to contract with third parties, absent direct and explicit

¹³ For instance, D.09-08-027(at page 181), “Because Thermal Energy Storage and Permanent Load Shifting appear promising, we order the utilities to work together with parties to examine ways of expanding the availability of permanent load shifting.” Another example is (at page 196), “To further ensure that EM&V funds are well spent, we note that the utilities are already required to evaluate the statewide program under the oversight of the DRMEC, and we extend this oversight requirement to all of the utilities’ EM&V activities.”

¹⁴ The IOUs believe there are important pro-competitive reasons why joint negotiations about energy efficiency programs and contracts would be deemed lawful. While the absence of state action immunity does not mean that an antitrust violation has occurred, the significant legal risks that the IOUs would face without such immunity are too great

1 Commission authorization to do so, as well as continued supervision by the Commission over
2 such activities. To mitigate against these potential risks and to promote implementation of future
3 statewide DR statewide activities, and consistent with the decision reached in D.10-06-009
4 modifying D.09-12-024,¹⁵ and more recently D.10-12-054 modifying D.09-09-047.¹⁶ SDG&E
5 request that the Commission address the issue in this Application and make certain explicit
6 findings as follows:

7 A State Action Doctrine defense to an antitrust action exists where: (a) the challenged
8 conduct is a result of directions clearly articulated and affirmatively expressed as state policy;
9 and (b) there is continued active supervision of the Joint IOUs' activities in this regard. Here, the
10 Joint IOUs understand and believe, and ask the Commission to explicitly state, that
11 implementation of required statewide DR activities as called for in the Commission's final
12 decision regarding the approval of the IOUs 2012-2014 DR activities represents a state policy
13 goal and that the Commission intends the Joint IOUs to work collaboratively as described below
14 to achieve this goal. In particular, the Joint IOUs ask the Commission for a finding that
15 explicitly authorizes the Joint IOUs to engage in certain specific activities which they feel will be
16 necessary to collaboratively implement the DR statewide activities as ordered by the
17 Commission. These activities include:

¹⁵ Petition to Modify Decision (D.) 09-12-014, which approved SCE's request to co-fund and participate in a feasibility study to determine the technical feasibility and commercial reasonableness of an integrated gasification combined cycle ("IGCC") facility with carbon capture for use in enhanced oil recovery ("EOR") with sequestration. The facility is commonly referred to as Hydrogen Energy California ("HECA"). SCE is participating in the study with Hydrogen Energy International LLC ("HEI").

¹⁶ Petition to Modify Decision 09-09-047, which approved the Joint IOUs request to jointly implement certain energy efficiency programs and that their exchange of confidential and/or competitively-sensitive information related to such implementation shall be deemed to have been undertaken at the express direction and under the supervision of the Commission in furtherance of an expressly-articulated state policy.

- 1 1. Joint and cooperative consultations between and among the Joint IOUs and energy
2 efficiency contractors to assist with determination of the contract requirements of their
3 jointly administered and jointly funded energy efficiency programs;
- 4 2. Joint cooperative process among the Joint IOUs for the sourcing and negotiation
5 (including program requirements, performance, price, quantity and specifications) of joint
6 contracts for energy efficiency to be managed and run by one lead IOU, subject to
7 approval and review by the other IOUs.
- 8 3. Joint submission to the Commission for its approval of proposed energy efficiency
9 contracts pertaining to implementation of statewide programs; and
- 10 4. Other joint and collaborative activities pertaining to the collaboration and joint
11 contracting for statewide energy efficiency programs as the Joint IOUs may determine is
12 necessary for implementation of the statewide programs, subject to the Commission's
13 oversight.

14
15 Finally, SDG&E believes the Commission intends to actively supervise and is
16 supervising the Joint IOUs in this regard and ask the Commission for an explicit finding to that
17 effect. For instance D.09-08-027 (at page 196) directs the Joint IOUs to evaluate statewide
18 programs under the oversight of the DRMEC, whose membership includes Energy Division,
19 which includes the ongoing oversight of the IOU process for planning IOU-managed studies and
20 selection of contractors. An example is Energy Division staff's regular monthly meetings with
21 IOU staffs regarding the implementation of the Integrated Demand Side Management ("IDSM")
22 cost effectiveness project and the development of the integrated audit tool.

1 The Joint IOUs believe it is important for the Commission to make these explicit findings
2 to mitigate the risk of potential allegations of antitrust violations resulting from their adherence
3 to Commission-ordered collaboration, and ultimately, to further the effective implementation of
4 the DR statewide programs and activities.

5 To address these issues, SDG&E proposes the following policy recommendations to
6 enhance budget flexibility and facilitate critical program adjustments.

7 **1. Program and Budget Flexibility/Fund Shifting**

8 In D. 09-08-027, the Commission adopted budget fund-shifting rules to implement the
9 finding as set forth on pages 211 – 212 that provides “...It is reasonable to provide the utilities
10 with some flexibility to shift funds among demand response programs, in order to provide the
11 utilities with the ability to respond effectively to unforeseen developments that may occur, or to
12 respond to changing conditions.” D. 09-08-027 further provided that “...Providing utilities with
13 broad authority to shift funds among programs without prior notification or approval of this
14 Commission undermines the regulatory process through which this decision was developed. The
15 program budgets adopted here become meaningless if large portions can be shifted to different
16 programs or budget categories.” The decision went on to adopt fund-shifting rules that provide
17 as follows:

18 --“The utilities may shift up to 50% of a program’s funds to another program
19 within the same budget category. Utilities will document the amount of and
20 reason for each shift in their monthly demand response reports.”

21 --“The utilities must file an advice letter to eliminate a program. No program
22 can be eliminated through multiple fund shifting events or for any other reason
23 without prior authorization from the Commission.”

24 --“The utilities must file a Tier 2 advice letter before shifting more than 50% of
25 program’s funds to a different program within the same budget category. If shift of more
26 then (sic) 50% of a program’s funds is necessary as part of the implementation of a new
27 program, the fund shift should be included in application
28 for approval for the new program.”

1 --“The following lists contain the ten program categories for fund shifting
2 purposes, along with various programs authorized within each category.
3 Utilities shall not shift funds between these ten categories.”

4 Establishment of the ten budget categories as set forth on pages 213 – 214 of D. 09-08-
5 027 effectively isolates a number of programs into their own category for purposes of budget
6 fund-shifting, and severely limits the flexibility that was noted as being an objective of fund-
7 shifting in the first place. For example, with respect to SDG&E’s programs, the existing
8 Category 1—Emergency Programs includes SDG&E’s Base Interruptible Program (“BIP”),
9 Summer Saver Program, Optional Binding Mandatory Curtailment Program (“OBMC”) and
10 Scheduled Load Reduction Program (“SLRP”). While this would suggest the flexibility to shift
11 fund among these four programs, subject to the rules adopted by D. 09-08-027, the reality is far
12 more restrictive. Of these four programs, only one, the BIP program, has a program budget
13 authorized by D. 09-08-027. The Summer Saver Program is authorized and funded through
14 SDG&E’s Long-term Resource Plan Procurement, while the OMBC and SLRP programs are
15 funded through SDG&E’s General Rate Case proceeding. As such, each of the other three
16 programs has a different ratemaking authorization and recovery, making budget fund-shifting
17 impractical and arguably not authorized under the rules adopted by D. 09-08-027. The same
18 circumstances generally exist within Category 2—Price Responsive Programs, with those listed
19 SDG&E programs being funded through different proceedings.

20 In order to achieve the maximum flexibility and benefit of budget fund-shifting, to help
21 maintain a vibrant and flexible DR program portfolio, and minimize the burden and time delays
22 of more frequent Advice Letter requests to the Commission, SDG&E proposes that the budget
23 categories adopted for the 2012 – 2014 program cycle be reduced from the current ten program
24 categories to a more manageable and flexible six. For these six categories SDG&E recommends

1 all actual resource programs (Category 1), all enabling, pilot and integration policy and planning
2 programs (Category 2), EM&V activities a separate group (Category 3), combining system
3 support activities such as IT Infrastructure and policy and program support (Category 4), a
4 grouping of core marketing and outreach efforts (Category 5) and finally all integrated programs
5 as a group (Category 6). This proposed new budget category structure is depicted in the Cost
6 Category Tables of Appendix A.

7 **2. Annual Advice Letter Filings**

8 SDG&E proposes that the Commission continue to authorize the annual filing of an
9 Advice Letter, no later than October 15 of each year during the 2012-2014 program cycle (i.e.,
10 October 15, 2012 and October 15, 2013). The primary purpose of these annual Advice Letters
11 would be to propose specific program changes, based on its ongoing experience and customer
12 feedback regarding DR program operation, designed to enhance the portfolio of authorized DR
13 programs for succeeding years within the 2012 – 2014 program cycle. SDG&E notes that the
14 timing of its proposed annual Advice Letter would enable it to consider the results of each just-
15 concluded summer season, analyze the customer participation rates, consider customer feedback,
16 evaluate new or revised technologies that enable customer participation in programs, and any
17 other relevant factors that might warrant revisions to existing programs.

18 **III. GUIDING PRINCIPLES FOR PORTFOLIO DEVELOPMENT**

19 The following principles were used to guide the development of all the programs within
20 SDG&E's portfolio to ensure consistency of policy and approach.

21 **A. SDG&E's Portfolio simplifies DR Program Participation**

22 SDG&E's DR program/rate participation has increased significantly during the past five
23 years with the number of enrolled customers growing from approximately 12,000 in 2006 to over

1 44,000 today. Several changes made during the last program cycle contributed to this increase
2 including integrated EE and DR program marketing, integrated EE and DR audits, a simplified
3 portfolio and a broader portfolio of program/rate options. The 2012-2014 portfolio is designed
4 to continue that progress toward broader participation by further simplifying our DR product mix
5 to avoid customer confusion and offering the CPP Premium program that provides CPP-D
6 customers with Aggregator assistance without having to understand and enroll in a second DR
7 program.

8 The programs we are proposing to sunset the CPP-E and Optional Binding Mandatory
9 Curtailment (OBMC) program. These programs have limited or no customer participation, are
10 largely duplicative of other DR programs and add unneeded complication and costs to the overall
11 DR portfolio.

12 **B. SDG&E's DR Portfolio is comprehensive in reach**

13 The overall objective of DR programs/rates is to encourage customers to reduce their
14 usage during peak demand periods. SDG&E believes the best way to achieve this goal is to
15 provide every customer with clear price signals that reflect higher system costs during peak
16 hours and to provide customers with the tools and incentives to analyze their operations and
17 implement changes that minimize their peak demand.

18 With the expected installation of Smart Meters at all of SDG&E's customers' premises
19 by 2012 and the subsequent phasing in of time dependant rates for all customers, the opportunity
20 to broadly expand DR program/rate participation during the 2012-2014 cycle is great. To
21 facilitate this opportunity, SDG&E's proposed DR portfolio is comprehensive in reach (all
22 customer segments will have DR options) and depth (a range of DR technologies and
23 programs/rates will be available for each segment).

1 **1. Residential Segment**

2 For residential customers, we are continuing our successful Summer Saver program (AC
3 cycling, not funded through this application) and introducing a new program, the Small
4 Customer Technology Deployment Program (“SCTD”), to provide incentives to encourage the
5 developing market of home/small business energy management devices. These devices will
6 provide automated demand response which minimizes the effort required of our customers, and
7 greatly enhancing the reliability of the response. In addition, the portfolio includes funding to
8 continue residential customer education and outreach on SDG&E’s Peak Time Rebate, after the
9 existing funding approved in our Smart Meter case expires at the end of 2011.

10 **2. Small and Medium Commercial and Industrial Segment**

11 For small and medium non-residential customers (<100 kW peak demand) we are
12 continuing our successful Summer Saver program (not funded through this application) and if
13 their peak demand exceeds 20kW they are also eligible to enroll in the optional CPP-D rate.
14 These customers are also served under the SCTD program discussed above which provides
15 enabling technology to increase and automate their demand response. The program details are
16 discussed in George Katsufrakis’ testimony but our objectives are to identify low cost DR
17 technology solutions for this segment in preparation for the broader introduction of CPP rates in
18 2014.

19 **3. Large Non-residential Segment**

20 For large non-residential customers (>100 kW peak demand), SDG&E will continue to
21 offer comprehensive day-ahead (Capacity Bidding, CPP-D) and day-of (Capacity Bidding, Base
22 Interruptible, DemandSMART) DR program/rate options with Technology Assessment and
23 Technology Incentives (TA/TI) available for auto-DR technology. In addition, the CPP

1 Premium incentives will enable Aggregators to provide technology assistance and monitoring for
2 CPP-D customers.

3 A new program area for the 2012-14 cycle is Peak Load Shifting (“PLS”). Following the
4 PLS pilot, SDG&E will be offering an incentive upon installation for customers that select
5 approved technologies designed to permanently shift their peak electric load to off-peak periods.
6 Technologies envisioned for this program include thermal energy storage, batteries and
7 flywheels. This program will be attractive to customers that operate under CPP or TOU rates
8 and are not comfortable with or capable of reacting to DR events. We are awaiting final
9 guidance from the CPUC on the details of this category of program but we have a general
10 program description included in George Katsufraakis’ testimony.

11 Other new offerings for this market segment include a Locational Dispatch Pilot and DR
12 for the new construction segment. The Locational Dispatch pilot will focus DR and EE
13 programs on specific circuits that are stressed at peak load. This program is designed to test the
14 ability of DR to improve reliability and delay the need for distribution facilities upgrades on a
15 specific circuit. We will also be offering our first DR pilot for the new construction segment
16 designed to engage builders and developers early in their design process to incorporate DR
17 technologies into their building designs.

18 **C. SDG&E’s DR Portfolio promotes automated controls for improved reliability of DR**

19 The third principle of SDG&E’s DR portfolio design is to maximize the use of automated
20 controls. There are several reasons for this effort, the most important of which is the
21 overwhelming evidence¹⁷ that automation increases DR significantly over non-automated
22 behavior adjustments. Second, automation provides greater certainty that customers will respond

¹⁷ California Statewide Pricing Pilot, 2003-4.

1 to a DR event trigger since human intervention is not required. The third driver for automation is
2 the shortened reaction time for customers responding to DR events that allow DR programs to
3 participate in the CAISO's day-of energy markets and the non-spin ancillary service market
4 which requires 10 minute or less response time to participate. All of these benefits provided by
5 automation combine to greatly increase the value of DR to SDG&E's grid operations by making
6 DR resources more closely mimic generation resources in reliability, predictability and response
7 rates.

8 SDG&E promotes automated controls in its DR portfolio in several ways. For residential
9 customers, the Summer Saver program is an automated control of air conditioners which
10 provides direct incentives for customers to participate. In addition, we will be launching SCTD
11 program to promote home/small business automation devices, an emerging product area.

12 For non-residential customers, SDG&E proposes to continue its successful Technical
13 Assistance/Technology Incentives ("TA/TI") Program with a more comprehensive energy
14 efficiency assessment in the TA audit. This program provides incentives to customers and
15 Aggregators that install automated controls and participate in a DR program or rate. These
16 incentives reinforce the value of automation to SDG&E's customers and enhance the reliability
17 and value of these programs from an operations perspective. In addition, SDG&E is proposing
18 the CPP Premium incentive mechanism which offers incremental incentives to Aggregators with
19 CPP customers that are certified as Auto DR compliant to increase the demand reduction
20 achieved under this rate. Finally, the SCTD program targets "residential like" small commercial
21 customers, who are not currently viewed as viable customers by Aggregators, for automated
22 controls.

1 Overall, SDG&E submits that automation is becoming even more important as a long-
2 term solution for DR because Smart Meters is expected to dramatically increase the percentage
3 of customers participating in DR programs/rates and those customers will need energy
4 management solutions that operate without inconveniencing the customer while maximizing
5 DR's visibility and value as an energy resource. SDG&E's DR portfolio is designed to facilitate
6 that solution.

7 **IV. SDG&E HAS SOLICITED ADDITIONAL DR PROGRAMS THROUGH ITS 2009**
8 **REQUEST FOR OFFERS—NEW LOCAL AND OFF-SYSTEM CAPACITY**

9 SDG&E was directed by the Commission to include demand response resources in its
10 2009 Demand Response, Local Peak Capacity, and Off-System Resource RFO. The Energy
11 Division subsequently stated their preference for SDG&E to file the selected DR contracts in this
12 Application, if possible. SDG&E has not, as of this date, reached final agreement with the
13 selected DR providers. We intend to file those contracts for Commission consideration when
14 negotiations are complete or unless directed otherwise upon reconsideration of the Commission's
15 policy on bilateral agreements, as requested in this Application.

16 **V. PROGRAM BUDGET SUMMARY**

17 Presented below in Table 2 is SDG&E's proposed 2012-2014 DR budget allocated by
18 program and category. These budgets support, but do not duplicate or overlap other DR budget
19 decisions or requests. Funding for Summer Saver and DemandSMART were requested in their
20 respective individual filings with the exception of program administrative costs requested in this
21 Application. Finally, for PTR, originally approved in SDG&E's AMI decision (D07-04-043)
22 through 12/31/2011, we are requesting funding in this application to continue marketing,
23 outreach and program administration for that program.

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Table MG-2: Summary of SDG&E Demand Response Programs and Budgets for 2012-2014

**TABLE MG-2
SAN DIEGO GAS AND ELECTRIC
SUMMARY OF UTILITY DEMAND RESPONSE PROGRAMS
AND BUDGETS FOR 2012-2014 BY 2009-2011 PROGRAM CATEGORY**
(Thousands of Dollars)

Line	SDG&E Demand Response Programs by Category	Footnote	Budget Requested for 2012-2014 (Thousands of Dollars)			
			2012	2013	2014	Total
1	Category 1 - Emergency Programs					
2	Base Interruptible Program (BIP)		1,113	1,283	1,783	4,179
3	Optional Binding Mandatory Curtailment/Scheduled Load Reduction Programs (OBMC/SLRP)	1				
4	Total		1,113	1,283	1,783	4,179
5	Category 2 - Price Response Programs					
6	Summer Saver	2				
7	Capacity Bidding Program (CBP)		3,648	4,053	4,238	11,939
89	Peak Time Rebate (PTR)		2,658	831,038	864,076	4,353,772
944	CPP-D	1				
1042	Total		6,306	4,884,091	5,102,314	16,292,467
1143	Category 3 - DR Service Provider Managed Programs					
1244	EnerNOC DemandSmart Program (DSP)	3	200	220	220	640
1345	Total		200	220	220	640
1446	Category 4 - DR Enabling Programs					
1547	Technology Incentives (TI)		3,014	3,023	3,031	9,068
1648	Permanent Load Shifting (PLS)		775	1,188	1,106	3,069
1729	SM Customer Tech Deployment (SCTD)		5,822	4,432	2,755	13,009
1829	Emerging Technology DR (ET-DR)		700	704	707	2,111
1924	Total		10,311	9,347	7,599	27,257
2026	Category 5 - Pilots					
21	Local Demand Response (LDR)		141	144	148	433
22	New Construction Demand Response (NCDRP) Residential		554	283	289	1,126
2326	Total		695	427	437	1,559
2427	Category 6 - Flex Alert Program (Flex Your Power Now)					
2528	Flex Alert Network (FLEX)	4	210	-	-	210
2629	Total		210	-	-	210
2730	Category 7 - Evaluation, Measurement, and Verification					
2834	Evaluation, Measurement and Verification		1,676	1,913	1,526	5,115
2932	Total		1,676	1,913	1,526	5,115
3033	Category 8 - System Support Activities					
3134	Regulatory Policy & Program Support		700	745	786	2,231
3235	IT Infrastructure & System Support		2,829	1,503	1,078	5,410
3336	Total		3,529	2,248	1,864	7,641
3437	Category 9 - DR Core Marketing and Outreach					
3538	Customer Education and Outreach (CEAO)		423	378	357	1,158
3639	Total		423	378	357	1,158
3740	Category 10 - Integrated Programs					
3844	Technical Assistance (TA)		3,321	-	-	3,321
3942	Residential Microgrid Program (MICROGRD)		119	-	-	119
4043	Customer, Educational and Outreach - IDSM		1,269	-	-	1,269
4144	Total		4,709	-	-	4,709
4245	GRAND TOTAL		29,172	20,700,907	18,884,400	88,760,694

Footnotes:
1 D-08-02-034 2006 GRC filing for OBMC, SLRP, and CPP-D.
A-10-12-005 6 2012 GRC filing for OBMC, SLRP and CPP-D.
2 D-04-06-011 Filing for Summer Saver.
3 D-09-09-015 Filing for Demand Smart.
4 FLEX is an integrated program, and should be classified in Category 10.

1 **VI. REQUIRED PROGRAM INFORMATION FROM GUIDANCE DOCUMENT**

2 Presented below are the three tables requested in Section 3.10 of the Administrative Law
3 Judge's Ruling Providing Guidance for the 2012-2014 Demand Response Application.

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**Table MG-3
SAN DIEGO GAS AND ELECTRIC
SUMMARY OF UTILITY DEMAND RESPONSE PROGRAMS
BUDGETS and EXPENSES FOR 2009-2014 BY 2009-2011 PROGRAM CATEGORY**

Line	SDG&E Demand Response Programs by Category	Footnote	Budget Requested for 2012-2014 (Thousands)				2009-2011 Budget (Thousands)				2009-2010 Actuals (Thousands)		
			2012	2013	2014	Total	2009	2010	2011	Total	2009	2010	Total
1	Category 1 - Emergency Programs												
2	Base Interruptible Program (BIP)		1,113	1,283	1,783	4,179	499	555	422	1,475	645	668	1,313
3	Optional Binding Mandatory Curtailment/Scheduled Load Reduction Programs (OBMC/SLRP) CPP-E	1					127	107	95	329	112	93	206
4	Total		1,113	1,283	1,783	4,179	626	662	516	1,804	757	761	1,519
5	Category 2 - Price Response Programs												
6	Summer Saver	2						Confidential			Confidential		
7	Capacity Bidding Program (CBP)		3,648	4,053	4,238	11,939	1,863	2,097	2,466	6,426	1,361	1,739	3,100
89	Peak Time Rebate (PTR)		2,656	4,038	4,073	4,767							
940	CPP-D DBP, Peak Day Credit	1					820			820	463	178	641
1042	Total		6,306	4,884	5,102	16,292	2,683	2,097	2,466	7,246	1,824	1,917	3,741
				5,004	5,314	16,744							
1143	Category 3 - DR Service Provider Managed Programs												
1244	DemandSMART™ Program (DSP)	3, 4	200	220	220	640	Confidential				200	200	200
1345	Total		200	220	220	640						200	200
1446	Category 4 - DR Enabling Programs												
1547	Technology Incentives (TI)		3,014	3,023	3,031	9,068	4,354	4,275	4,034	12,663	1,819	914	2,733
1648	Permanent Load Shifting (PLS) SM Customer Tech Deployment (SCTD)		775	1,188	1,106	3,069	1,100	1,103	1,106	3,308	1,047	478	1,524
1729	Emerging Technology DR (ET-DR)		5,822	4,432	2,755	13,009							
1823			700	704	707	2,111	718	708	717	2,142	149	633	782
1924	Total		10,311	9,347	7,599	27,257	6,172	6,086	5,856	18,114	3,014	2,025	5,039
2025	Category 5 - Pilots												
21	Locational Demand Response (LDR)		141	144	148	433							
22	New Construction Demand Response (NCDRP)		554	283	289	1,126							
23	RACT, PLP, WMP						1,803	1,796	1,846	5,446	694	716	1,411
2426	Total		695	427	437	1,559	1,803	1,796	1,846	5,446	694	716	1,411
2527	Category 6 - Flex Alert Program (Flex Your Power Now)												
2628	Flex Alert Network (FLEX)		210	-	-	210	627	418	209	1,254	124	66	189
2726	Total		210	-	-	210	627	418	209	1,254	124	66	189
2830	Category 7 - Evaluation, Measurement, and Verification												
2934	Evaluation, Measurement and Verification		1,676	1,913	1,526	5,115	1,167	1,585	1,354	4,106	961	1,167	2,129
3032	Total		1,676	1,913	1,526	5,115	1,167	1,585	1,354	4,106	961	1,167	2,129
3133	Category 8 - System Support Activities												
3234	Regulatory Policy & Program Support		700	745	786	2,231							
33	IT Infrastructure & System Support		2,829	1,503	1,078	5,410					119		119
3435	CRM, General Admin		2,829	1,503	1,078	5,410	1,140			1,140	2,581	744	3,325
3536	Total		3,529	2,248	1,864	7,641	1,140			1,140	2,701	744	3,445
			6,358	3,751	2,942	13,051							
3637	Category 9 - DR Core Marketing and Outreach												
3738	Customer Education and Outreach Placeholder (CEAO)		423	378	357	1,158	1,801	2,010	2,219	6,029	1,092	634	1,726
3839	Total		423	378	357	1,158	1,801	2,010	2,219	6,029	1,092	634	1,726
3940	Category 10 - Integrated Programs												
4044	Technical Assistance (TA)		3,321	-	-	3,321	3,323	3,337	3,351	10,011	1,014	1,591	2,605
4142	Residential Microgrid Program (MICROGRID)		119	-	-	119							
4243	Customer, Education and Outreach - DSM		1,269			1,269							
4344	Total		4,709	-	-	4,709	3,323	3,337	3,351	10,011	1,014	1,591	2,605
4445	GRAND TOTAL		29,172	20,700	18,888	68,760	19,342	17,990	17,817	55,150	12,181	9,822	22,002
			32,004	22,410	20,478	74,589							

Footnotes:

- 1 D.08-02-034 2006 GRC filing for OBMC, SLRP, and CPP-D.
- 2 A.10-12-005 2012 GRC filing for OBMC, SLRP and CPP-D.
- 3 D.04-06-011 Filing for Summer Saver.
- 4 D.09-09-015 Filing for Demand Smart.
- 5 Values represent incentive amounts only

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**TABLE MG-4
SAN DIEGO GAS AND ELECTRIC
SUMMARY OF UTILITY DEMAND RESPONSE PROGRAMS
ENROLLMENT and IMPACTS for 2009-2011**

Program	Customer Type	Description	2009	2010
CBP day-ahead	Commercial	Number of Customers	103	83
		Average Ex-Post M&E Load Impact (MW)	10	11
CBP day-of	Commercial	Number of Customers	264	283
		Average Ex-Post M&E Load Impact (MW)	14	9
CPP	Commercial	Number of Customers	1,521	1,339
		Average Ex-Post M&E Load Impact (MW)	24	27
CPP-E	Commercial	Number of Customers	10	8
		Average Ex-Post M&E Load Impact (MW)		
DemandSMART™	Commercial	Number of Customers		105
		Average Ex-Post M&E Load Impact (MW)		8
BIP	Commercial	Number of Customers	19	21
		Average Ex-Post M&E Load Impact (MW)		4
Summer Saver	Commercial	Number of Customers	13,027	12,977
		Average Ex-Post M&E Load Impact (MW)	8	7
Summer Saver	Residential	Number of Customers	30,109	29,993
		Average Ex-Post M&E Load Impact (MW)	20	16
PLS	Commercial	Number of Customers	2	3
		Average Ex-Post M&E Load Impact (MW)	0.5	1.3

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**TABLE MG-5
 SAN DIEGO GAS AND ELECTRIC
 SUMMARY OF UTILITY DEMAND RESPONSE EVENTS
 2009-2011 BY PROGRAM**

SDG&E Demand Response Programs	Months			
	July	August	September	Total
2009				
Summer Saver	1	3	3	7
CBP Day Of	1	3	3	7
CBP Day Ahead	-	2	4	6
CPP-D	-	4	4	8
Total	2	12	14	28
2010				
Summer Saver	2	6	3	11
CBP Day Of	3	6	3	12
CBP Day Ahead	1	5	1	7
CPP-D	-	2	2	4
DemandSMART™	3	6	1	10
BIP	-	-	2	2
Total	9	25	12	46
TOTAL TO DATE 2009-2011	11	37	26	74

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This concludes my prepared direct testimony.

1 **VII. QUALIFICATIONS**

2 My name is Mark Gaines. My business address is 555 West Fifth Street, Los Angeles
3 California, 90013. I am employed by San Diego Gas & Electric Company (“SDG&E”) as
4 Director Customer Programs in the Customer Solutions organization. In my current position, I
5 am responsible for the organization that designs, develops and implements SDG&E’s Demand
6 Response Programs; and SDG&E’s and Southern California Gas Company’s Energy Efficiency
7 Programs.

8 I graduated from University of California, Irvine with a Bachelor of Science degree in
9 Civil and Environmental Engineering. I received a Master of Business Administration (MBA)
10 degree from University of California, Los Angeles. I have been employed by SDG&E and
11 Sempra Energy since 1983 and have held positions of increasing and broadening responsibility
12 in such organizations as Engineering, Public Affairs, Customer Services, Environmental Services
13 and Customer Solutions.

14 I have previously testified before this Commission in a variety of proceedings.
15

Appendix

ATTACHMENT 1

Pike Research Article from pikeresearch.com

HOME ENERGY MANAGEMENT USERS WILL REACH 28 MILLION BY 2015

December 10, 2009

Amid historic volatility in energy prices and heightened concern about energy security and climate change, energy management and energy efficiency are hot topics. Tens of millions of smart electric meters are slated for deployment in the next few years, in addition to a broad array of other smart grid enhancements. And consumer interest in energy issues is higher than it has been in decades. According to a new report from Pike Research, this groundswell from consumers, together with a strong push from electric utilities, will create a substantial market for home energy management systems and energy information displays (EIDs), which the firm forecasts will include 28.1 million users worldwide by 2015.

“Energy information displays are the face of the smart grid,” says managing director Clint Wheelock. “These systems will provide consumers with an unprecedented level of visibility into, and control over, the consumption of electricity within their homes, providing a significant opportunity for efficiency improvements and cost savings.” Wheelock adds that EIDs will provide important tools for utilities, as well, who will utilize them for more efficient management of power generation and distribution, including dynamic pricing and load control during periods of peak and off-peak demand.

Pike Research forecasts that in-home display devices will be the largest EID category, with 14.4 million units shipped by 2015. Web-based dashboards will also be a major category with 11.1 million users, followed by mobile phone energy applications with 2.6 million users.

The home energy management vendor landscape is increasingly crowded, and competition is fierce as a variety of industry players pursue the emerging EID opportunity. These include Google and Microsoft, both of which have recently launched web dashboards for energy management and are aggressively pursuing utility partnerships. Other key players include Control4, eMeter, Energate, Energy Inc., Green Energy Options, GridPoint, Onzo, OpenPeak, Silver Spring Networks, and Tendril Networks.

1 ATTACHMENT 2

DR PROGRAM SUMMARY 07/05/06								
Program Name	Active Customers	Active Meters	Active MW	Pending MW	Pending Customers	Lead MW	Total Lead + Actual + Pending MW	Total Active + Pending MW
(Day Ahead)								
Demand Bidding	27	51	10.20	0.57	1	2.18	12.95	10.77
C&I Peak Day 20/20	289	425	21.36	7.22	52	128.88	157.46	28.58
Critical Peak Pricing	42	121	14.86	0.00	0	0.00	14.86	14.86
CPA - Demand Reserves Partnership	2	24	4.19	0.15	1	0.00	4.34	4.34
Total Day Ahead:	360		50.61	7.94		131.06	189.61	58.55
(Day Of)								
Critical Peak Pricing - Emergency	9	12	6.19	0.00	0	0.00	6.19	6.19
AL-TOU-CP	13	30	15.85	0.00	0	0.00	15.85	15.85
Peak Generation Program	34	64	64.07	0.00	0	0.88	64.95	64.07
Demand Bidding - Emergency	0	0	0.00	0.00	0	0.00	0.00	0.00
Base Interruptible Program - Option A	0	0	0.00	0.00	0	0.66	0.66	0.00
Base Interruptible Program - Option B	1	1	0.13	0.00	0	0.00	0.13	0.13
Scheduled Load Reduction Program	0	0	0.00	0.00	0	0.00	0.00	0.00
Optional Binding Mandatory Curtailment	0	0	0.00	0.00	0	0.00	0.00	0.00
Clean Generator Program	0	0	0.00	6.00	1	4.00	10.00	6.00
Smart Thermostat Program	3739	4080**	1.50	0.00	5	0.00	1.50	1.50
Summer A/C Saver	9239	11412	18.20	1.14	2283	n/a	19.34	19.34
DRP-Lite*	24	0	14.00	0.00	0	0.00	14.00	14.00
Total Day Of:	13059		119.94	7.14		5.54	132.62	127.08
Total MWs			170.55	15.08		136.60	322.23	185.63

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1 ATTACHMENT 3

Year-to-Date Event Summary						
Program Category	Event No.	Date	Event Trigger(1)	Load Reduction kW	Event Beginning:End	Program Tolled Hours (Annual)
None	n/a	January-10	None	n/a	n/a	None
None	n/a	February-10	None	n/a	n/a	None
None	n/a	March-10	None	n/a	n/a	None
None	n/a	April-10	None	n/a	n/a	None
None	n/a	May-10	None	n/a	n/a	None
None	n/a	June-10	None	n/a	n/a	None
Capacity Bidding Program - DAY OF	1	07/14/10	Met Price Triggers	10,000	1pm-5pm	4
DemandSMART	2	07/14/10	At discretion of Utility	9,600	1pm-5pm	4
Capacity Bidding Program - DAY OF	3	07/15/10	Met Price Triggers	11,000	1pm-5pm	8
DemandSMART	4	07/15/10	At discretion of Utility	7,800	1pm-5pm	8
Summer SAVER	5	07/15/10	At discretion of Utility	9,500	1pm-6pm	5
Capacity Bidding Program - DAY AHEAD	6	07/16/10	Met Price Triggers	11,700	1pm-5pm	4
DemandSMART	7	07/16/10	At discretion of Utility	8,100	1pm-6pm	13
Capacity Bidding Program - DAY OF	8	07/16/10	Met Price Triggers	11,700	1pm-5pm	12
Summer SAVER	9	07/16/10	At discretion of Utility	16,420	1pm-5pm	9
Summer SAVER	10	08/17/10	At discretion of Utility	9,000	1pm-5pm	13
DemandSMART	11	08/17/10	At discretion of Utility	8,900	1pm-6pm	18
Capacity Bidding Program - DAY OF	12	08/18/10	Met Price Triggers	10,500	1pm-5pm	16
Summer SAVER	13	08/18/10	At discretion of Utility	16,000	1pm-5pm	17
DemandSMART	14	08/18/10	At discretion of Utility	9,800	1pm-6pm	23
Capacity Bidding Program - DAY AHEAD	15	08/19/10	Met Price Triggers	10,800	1pm-5pm	8
Capacity Bidding Program - DAY OF	16	08/19/10	Met Price Triggers	9,900	1pm-5pm	20
Summer SAVER	17	08/19/10	At discretion of Utility	16,000	1pm-5pm	21
DemandSMART	18	08/19/10	At discretion of Utility	10,200	1pm-6pm	28
Capacity Bidding Program - DAY AHEAD	19	08/20/10	Met Price Triggers	7,900	1pm-5pm	12
Capacity Bidding Program - DAY OF	20	08/23/10	Met Price Triggers	10,100	1pm-5pm	24
Summer SAVER	21	08/23/10	At discretion of Utility	13,000	1pm-5pm	25
DemandSMART	22	08/23/10	At discretion of Utility	9,200	1pm-6pm	33
Capacity Bidding Program - DAY AHEAD	23	08/24/10	Met Price Triggers	10,600	1pm-5pm	16
Capacity Bidding Program - DAY OF	24	08/24/10	Met Price Triggers	10,200	1pm-5pm	28
Summer SAVER	25	08/24/10	At discretion of Utility	16,000	1pm-5pm	29
DemandSMART	26	08/24/10	At discretion of Utility	12,400	2pm-4pm	35
Critical Peak - Default DAY AHEAD	27	08/25/10	At discretion of Utility	34,300	11am-6pm	7
Capacity Bidding Program - DAY AHEAD	28	08/25/10	Met Price Triggers	11,100	1pm-5pm	20
Capacity Bidding Program - DAY OF	29	08/25/10	Met Price Triggers	9,800	1pm-5pm	32
Summer SAVER	30	08/25/10	At discretion of Utility	19,000	1pm-5pm	33
DemandSMART	31	08/25/10	At discretion of Utility	9,500	2pm-4pm	37
Capacity Bidding Program - DAY AHEAD	32	08/26/10	Met Price Triggers	13,000	1pm-5pm	24
Capacity Bidding Program - DAY OF	33	08/26/10	Met Price Triggers	10,100	1pm-5pm	36
Critical Peak - Default DAY AHEAD	34	08/26/10	At discretion of Utility	27,800	11am-6pm	14
Critical Peak - Default DAY AHEAD	35	09/27/10	At discretion of Utility	19,900	11am-6pm	14
Capacity Bidding Program - DAY OF	36	09/27/10	Met Price Triggers	9,200	1pm-7pm	42
Summer SAVER	37	09/27/10	At discretion of Utility	26,700	2pm-6pm	37
DemandSMART	38	09/27/10	At discretion of Utility	6,900	2pm-6pm	41
Base Interruptible (Option A)	39	09/27/10	At discretion of Utility	4,900	2pm-6pm	4
Base Interruptible (Option B)	40	09/27/10	At discretion of Utility	4,800	3pm-6pm	3
Critical Peak - Default DAY AHEAD	41	09/28/10	At discretion of Utility	21,700	11am-6pm	21
Capacity Bidding Program - DAY AHEAD	42	09/28/10	Met Price Triggers	9,700	2pm-6pm	28
Capacity Bidding Program - DAY OF	43	09/28/10	Met Price Triggers	10,300	1pm-7pm	47
Summer SAVER	44	09/28/10	At discretion of Utility	16,800	2pm-6pm	41
Capacity Bidding Program - DAY OF	45	09/29/10	Met Price Triggers	5,600	3pm-7pm	45
Summer SAVER	46	09/29/10	At discretion of Utility	13,900	2pm-6pm	45
None	n/a	October-10	None	n/a	n/a	None
None	n/a	November-10	None	n/a	n/a	None
None	n/a	December-10	None	n/a	n/a	None

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4

1 **ATTACHMENT 4**

2 **A. Aggregator List from SDG&E Website**

3 This program is designed for aggregated participation. If you are interested in participating in
4 this program please contact one of the aggregators listed below to enroll.

4. Name

5. Contact Information

CPowered

547 Apollo Street Suite F, Brea, CA 92821

Phone: (714) 256-9146

FAX: (714) 255-1763

Energy Curtailment
Specialist

3735 Genesee Street, Buffalo, NY 14225

Phone: (877) 711-5453

FAX: (716) 565-0506

Energy Logic, Inc.

239 Route 28, P.O. Box 204, Dennisport, MA 02639

Phone: (508)398-0533

FAX: (508)394-7001

EnerNoc, Inc

500 Howard Street, Suite 400 , San Francisco, CA 94105

Phone: (415) 343-9500

FAX: (415) 227-1645

RTP Controls

8 Studebaker, Irvine, CA 92618

Phone: 1-888-600-9222

7004 Bee Caves Rd., Bldg. 2, Austin, TX 78746

SureGrid

Phone: (877) 306-9400

FAX: (512) 306-9400

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